

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E & SUBPART L REQUIREMENT

OF

01
Mobile Phone
Sony
PM-0855-BV
N/A
PY7-PM0855
ER/2014/B0051
Jan. 09, 2015
2 , 22H & 24E & L
Sony Mobile Communications AB
Nya Vattentornet 22188 Lund/SWEDEN
SGS Taiwan Ltd.
Electronics & Communication Laboratory
No.134, Wu Kung Road, New Taipei Industrial Park, Wuku
District, New Taipei City, Taiwan 24803

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Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 2 of 471

VERIFICATION OF COMPLIANCE

Applicant:	Sony Mobile Communications AB Nya Vattentornet 22188 Lund/Sweden
Product Name:	Mobile Phone
Brand Name:	Sony
Type No.:	PM-0855-BV
Model Difference:	N/A
FCC ID:	PY7-PM0855
File Number:	ER/2014/B0051
Date of test:	Nov. 06, 2014 ~ Dec. 11, 2014
Date of EUT Received:	Nov. 06, 2014

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule PART 22 subpart H, PART 24 subpart E, PART 27 subpart C.

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

Test By:	Marcus Tseng	Date:	Jan. 09, 2015
Prepared By:	Marcus Tseng / Engineer Allen Tsai	Date:	Jan. 09, 2015
Approved By:	Allen Tsai / Engineer Jim Chang	Date:	Jan. 09, 2015

Jim Chang / Supervisor

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Revision History

Report Number	Revision	Description	Issue Date
ER/2014/B0051	Rev.00	Initial creation of document	Dec. 11, 2014
ER/2014/B0051	Rev.01	HW, SW, Internal photos	Jan. 09, 2015

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FCC ID: PY7-PM0855

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GENERAL PRODUCT INFORMATION

1.1. Product Description

General:

Product Name:	Mobile Phone		
Brand Name:	Sony		
Type No.:	PM-0855-	BV	
Model Difference:	N/A		
Data Cable (USB):		: EC450, Supplier: K-one AI-0700, Length: 100 cm	
Simple Hands-Free (SHF):	Model No Type No.:	.: MH410c, Supplier: Foster Electric AG-1100	
Car Charger:	Model No.: AN400, Supplier: Salcomp Type No.: CAA-0003013		
BT PHF	Model No.: SBH20, Supplier: Sony Type No.: RD-0010 coupling with Simple Hands Free (Model No.: MH755, Supplier: BALDA, Type No.: AG-0503)		
Hardware Version:	А		
Software Version:	25.0.B.0.35		
	3.8Vdc		
Power Supply:	Battery:	Model No.: LIS1574ERPC, Supplier: Sony Type No.: N/A	
	Adapter:	1.Model No.: EP800, Supplier: Salcomp Type No.: CAA-0002016-US	

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Bluetooth BR+EDR:

Bluetooth Version:	V4.1 dual mode + HS	
Channel number:	79 channels	
Modulation type:	Frequency Hopping Spread Spectrum	
Transmit Power:	5.38dBm	
Frequency Range:	2.402GHz – 2.480GHz	
Dwell Time:	<= 0.4s	
Antenna Designation: PIFA Antenna, Gain: 2.52dBi		

Bluetooth Low Energy:

Frequency Range:	2402 – 2480MHz
Bluetooth Version:V4.1 dual mode + HS	
Channel number: 40 channels	
Modulation type:	GFSK
Transmit Power:	-1.49dBm (Peak)
Antenna Designation:	PIFA Antenna, Gain: 2.52dBi

WLAN 2.4GHz:

Wi-Fi	Frequency Range	Channels	Rated Power	Modulation Technology
11b/g	2412-2462	11	b: 18.87dBm g: 22.66dBm	DSSS, OFDM
11n	HT20 2412-2462	11	HT20: 21.09dBm	OFDM
11n	HT40 2422-2452	7	HT40: 22.22dBm	OFDM
Antenna Designation:		PIFA Anteni	na, Gain: 2.52dBi	
Modulation type:		/ 2	K, DBPSK for DSSS QAM, QPSK, BPSK for O	FDM
Transition Rate:		802.11 g: 6/9 802.11 n_20	2/5.5/11 Mbps; 9/12/18/24/36/48/54 Mbps MHz: 6.5 – 72.2Mbps MHz: 13.5 –135Mbps	

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WLAN 5GHz:

Wi-Fi	Frequency Range	Channels	Rated Power	Modulation Technology	
	5150~5250	4	13.96dBm		
11a	5250~5350	4	13.99dBm	OFDM	
	5470~5725	8	13.96dBm		
	5725-5850	5	13.79dBm		
	HT20 5150~5250	4	HT20: 12.99dBm		
11n	HT20 5250~5350	4	HT20: 12.95dBm	OFDM	
1111	HT20 5470~5725	8	HT20: 12.99dBm		
	HT20 5725-5850	5	HT20: 12.79dBm		
	HT40 5150~5250	2	HT40: 11.95dBm		
11.0	HT40 5250~5350	2	HT40: 11.93dBm	OFDM	
11n	HT40 5470~5725	3	HT40: 11.96dBm	OFDM	
	HT40 5725-5850	2	HT40: 11.98dBm		
Antenna Designation		PIFA Antenna, 5GHz Gain: -0.54dBi (5150MHz-5250MHz) 5GHz Gain: -0.89dBi (5250MHz-5350MHz) 5GHz Gain: -0.34dBi (5470MHz-5725MHz) 5GHz Gain: -0.19dBi (5725MHz-5850MHz)			
Modulation type		64QAM, 16QAM, QPSK, BPSK for OFDM			
Transition Rate:		802.11 n_20	9/12/18/24/36/48/54 Mbps MHz: 6.5 – 65.0Mbps MHz: 13.5 – 135.0Mbps		

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GSM / WCDMA/ LTE:

	Operating Frequency	_	Rated Power
	GSM/GPRS 850, Class 12	824.2 MHz- 848.8 MHz	33dBm
	EDGE 850, Class 12	824.2 MHz- 848.8 MHz	27dBm
	GSM/GPRS 1900, Class 12	1850.2MHz - 1909.8MHz	30dBm
	EDGE 1900, Class 12	1850.2MHz - 1909.8MHz	26dBm
	WCDMA/HSUPA/HSDPA /HSPA+ Band II	1852.4MHz – 1907.6MHz	24dBm
Cellular Phone	WCDMA/HSUPA/HSDPA /HSPA+ Band V	826.4MHz - 846.6MHz	24dBm
Standards Frequency Range and Power	1.4MHz BW LTE-Band 2	1850MHz- 1909.3MHz	23dBm
	3MHz BW LTE-Band 2	1851.5MHz – 1908.5MHz	23dBm
	5MHz BW LTE-Band 2	1852.5MHz - 1907.5MHz	23dBm
	10MHz BW LTE-Band 2	1855MHz – 1905MHz	23dBm
	15MHz BW LTE-Band 2	1857.5MHz - 1902.5MHz	23dBm
	20MHz BW LTE-Band 2	1860MHz – 1900MHz	23dBm
	1.4MHz BW LTE-Band 5	824.7MHz - 848.3MHz	23dBm
	3MHz BW LTE-Band 5	825.5MHz - 847.5MHz	23dBm
	5MHz BW LTE-Band 5	826.5MHz – 846.5MHz	23dBm
	10MHz BW LTE-Band 5	829.0MHz - 844.0MHz	23dBm

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This test report applies for 850 /1900 GSM/GPRS/EDGE, WCDMA / HSDPA / HSUPA Band II/IV /V and LTE Band 2 and Band 5. The spread of uplink in HSPA+ supports only up to 42.2 Mbps.

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Test Mode	DC voltage (V)	DC current (mA)
GSM 850	3.8 Vdc	366
GSM 1900	3.8 Vdc	341
GPRS 850	3.8 Vdc	336
GPRS 1900	3.8 Vdc	281
EDGE 850	3.8 Vdc	205
EDGE 1900	3.8 Vdc	212
WCDMA B2	3.8 Vdc	674
WCDMA B5	3.8 Vdc	563
HSUPA B2	3.8 Vdc	609
HSUPA B5	3.8 Vdc	502
HSDPA B2	3.8 Vdc	587
HSDPA B5	3.8 Vdc	505

Final Amplifier Voltage and Current Information:

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LTE Band 2_1.4M QPSK	3.8 Vdc	833
LTE Band 2_1.4M 16QAM	3.8 Vdc	748
LTE Band 2_3M QPSK	3.8 Vdc	832
LTE Band 2_3M 16QAM	3.8 Vdc	744
LTE Band 2_5M QPSK	3.8 Vdc	841
LTE Band 2_5M 16QAM	3.8 Vdc	762
LTE Band 2_10M QPSK	3.8 Vdc	832
LTE Band 2_10M 16QAM	3.8 Vdc	755
LTE Band 2_15M QPSK	3.8 Vdc	841
LTE Band 2_15M 16QAM	3.8 Vdc	765
LTE Band 2_20M QPSK	3.8 Vdc	847
LTE Band 2_20M 16QAM	3.8 Vdc	767

LTE Band 5_1.4M QPSK	3.8 Vdc	718
LTE Band 5_1.4M 16QAM	3.8 Vdc	682
LTE Band 5_3M QPSK	3.8 Vdc	722
LTE Band 5_3M 16QAM	3.8 Vdc	679
LTE Band 5_5M QPSK	3.8 Vdc	721
LTE Band 5_5M 16QAM	3.8 Vdc	683
LTE Band 5_10M QPSK	3.8 Vdc	788
LTE Band 5_10M 16QAM	3.8 Vdc	732

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1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID:** <u>**PY7-PM0855**</u> filing to comply with Section Part 22 subpart H, Part 24 subpart E and Part27 subpart C & subpart L of the FCC CFR 47 Rules.

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures document of TIA/EIA 603C and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

TS 151 010-1 is used to set, and measure the output power.

The Output power Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, WCDMA / HSPA) was used for EUT and Base station setting.

KDB971168 D01 Power Meas license Digital System v01 as the supplemental guideline to conduct the measurement, including Peak to Power Average Ratio, Average Power over the fundamental signal BW (EIRP/ERP) and Signal Bandwidth.

1.4. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2009 & ANSI C63.10: 2009. FCC Registration Numbers are: 990257, Canada Registration Number: 4620A-4.

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan Township, Taoyuan County, Taiwan, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 455997.

1.5. Special Accessories

No special accessories were used during testing.

1.6. Equipment Modifications

There were no modifications incorporated into the EUT.

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2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

2.3. Test Procedure

2.3.1 Conducted Measurement at Antenna Port:

According to measurement procured TIA/EIA 603C, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C, The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13 of ANSI C63.4:2009 & ANSI C63.10:2009.

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2.4. Measurement Equipment Used:

Conducted Emission (measured at antenna port) Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
ТҮРЕ		NUMBER	NUMBER	CAL.	
Power Meter	Anritsu	ML2495A	1005007	01/13/2014	01/12/2015
Power Sensor	Anritsu	MA2411B	917032	01/13/2014	01/12/2015
Spectrum Analyzer	Agilent	E4446A	MY51100003	05/19/2014	05/18/2015
Spectrum Analyzer	Agilent	E4440A	US41160416	03/08/2014	03/07/2015
Radio Communication Analyzer	R & S	CMU200	116097	03/11/2014	03/10/2015
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	10/08/2014	10/09/2015
Temperature Chamber	TERCHY	MHG-120LF	911009	05/07/2014	05/06/2015
DC Block	Mini-Circuits	BLK-18-S+	1	02/27/2014	02/26/2015
Attenuator	Mini-Circuit	BW-S10W2+	002	02/27/2014	02/26/2015
Splitter	Agilent	11636B	N/A	02/27/2014	02/26/2015
DC Power Supply	Agilent	E3640A	MY52410006	11/10/2014	11/09/2015

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ERP,	EIRP MEASUREM	IENT EQUIPM	ENT List 966	Chamber	
EQUIPMENT TYPE	MFR	MODEL	SERIAL	LAST CAL.	CAL DUE.
		NUMBER	NUMBER		
Spectrum Analyzer	Agilent	E4446A	MY51100003	05/19/2014	05/18/2015
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	01/20/2014	01/19/2015
Spectrum Analyzer	R&S	FSV-30	101398	10/07/2014	10/06/2015
Bilog Antenna	SCHWAZBECK	VULB9168	378	01/02/2014	01/01/2015
Bilog Antenna	SCHWAZBECK	VULB9160	3158	10/31/2014	10/30/2015
Horn antenna	ETS.LINDGREN	3117	123995	05/19/2014	05/18/2015
Horn antenna	ETS.LINDGREN	3117	123991	01/20/2014	01/19/2015
Horn Antenna	Schwarzbeck	BBHA9170	184	01/23/2014	01/22/2015
Horn Antenna	Schwarzbeck	BBHA9170	185	07/29/2014	07/28/2015
Network Analyze	Anritsu	MS4644A	1216312	05/24/2014	05/23/2015
Signal Generator	Agilent	E4438C	MY45093613	08/06/2014	08/05/2015
Pre-Amplifier	Agilent	8447D	1937A02834	01/03/2014	01/02/2015
Pre-Amplifier	Agilent	8449B	3008A00578	01/03/2014	01/02/2015
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/24/2014	01/23/2015
Attenuator	Mini-Circuit	BW-S10W2+	004	02/27/2014	02/26/2015
Radio Communication Analyzer	R & S	CMU200	116097	03/11/2014	03/10/2015
Radio Communication Analyzer	Anritsu	MT8820C	6200995019	10/08/2014	10/09/2015
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	966_Tx	10m	01/03/2014	01/02/2015
Low Loss Cable	HUBER+SUHNER	966_Rx	3m	01/03/2014	01/02/2015
Filter 800-1000	Micro-Tronics	EWT	M2	02/27/2014	02/26/2015
Filter 1800-2000	Micro-Tronics	EWT	M2	02/27/2014	02/26/2015
Filter 1700-1800	Micro-Tronics	BRC15751	001	02/27/2014	02/26/2015
1GHz High Pass Filter	Micro-Tronics	HPM50108	32	02/27/2014	02/26/2015
2GHz High Pass Filter	Micro-Tronics	HPM50110	36	02/27/2014	02/26/2015
3m Site NSA	SGS	966 chamber	N/A	07/15/2014	07/14/2015

Note: N.C.R refers to Not Calibrated Required

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Configuration of Tested System 2.5.

Fig. 2-1 Configuration of Tested System (Fixed Channel-Conducted)

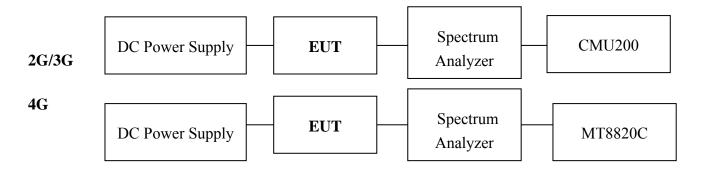
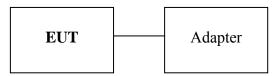


Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)



Remote Side



Table 2-1 Equipment Used in

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Com- munication Tester	R&S	CMU200	102189	shielded	Un-shielded
2.	Universal Radio Com- munication Tester	Anritsu	MT8820C	6200307563	shielded	Un-shielded
3.	DC Power Supply	HP	E3640A	MY40005907	shielded	Un-shielded

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3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a)(2) §24.232(c)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a)	Out of Band Emissions at Antenna Terminals and Band Edge	Compliant
\$2.1053 \$22.917(a) \$24.238(a)	Field Strength of Spurious Radiation	Compliant
§24.232(d)	Peak to Average Ratio	Compliant
\$2.1055(a)(1) \$22.355 \$24.235	Frequency Stability vs. Temperature	Compliant
\$2.1055(d)(1) \$22.355 \$24.235	Frequency Stability vs. Voltage	Compliant

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Max ERP/EIRP measurement result:

	dBm		W
GSM 850 Band	24.77	ERP	0.300
GSM 1900 Band	26.69	EIRP	0.467
GPRS 850 Band	24.51	ERP	0.282
GPRS 1900 Band	26.25	EIRP	0.422
EDGE 850 Band	23.32	ERP	0.215
EDGE 1900 Band	25.97	EIRP	0.395
WCDMA Band II	22.71	EIRP	0.187
WCDMA Band V	19.22	ERP	0.084
HSDPA Band II	22.42	EIRP	0.175
HSDPA Band V	19.01	ERP	0.080
HSUPA Band II	22.00	EIRP	0.158
HSUPA Band V	18.74	ERP	0.075

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	dBm		W
LTE Band 2/1.4MMz /QPSK RB 1 Offset 0	25.18	EIRP	0.330
LTE Band 2/1.4MMz /QPSK RB 1 Offset 5	25.18	EIRP	0.330
LTE Band 2/1.4MMz /16QAM RB 1 Offset 0	25.67	EIRP	0.369
LTE Band 2/1.4MMz /16QAM RB 1 Offset 5	25.89	EIRP	0.388
LTE Band 2/3MMz /QPSK RB 1 Offset 0	25.08	EIRP	0.322
LTE Band 2/3MMz /QPSK RB 1 Offset 14	25.11	EIRP	0.324
LTE Band 2/3MMz /16QAM RB 1 Offset 0	25.76	EIRP	0.377
LTE Band 2/3MMz /16QAM RB 1 Offset 14	25.65	EIRP	0.367
LTE Band 2/5MMz /QPSK RB 1 Offset 0	25.19	EIRP	0.330
LTE Band 2/5MMz /QPSK RB 1 Offset 24	25.12	EIRP	0.325
LTE Band 2/5MMz /16QAM RB 1 Offset 0	25.79	EIRP	0.379
LTE Band 2/5MMz /16QAM RB 1 Offset 24	25.70	EIRP	0.372
LTE Band 2/10MMz /QPSK RB 1 Offset 0	25.03	EIRP	0.318
LTE Band 2/10MMz /QPSK RB 1 Offset 49	25.30	EIRP	0.339
LTE Band 2/10MMz /16QAM RB 1 Offset 0	25.86	EIRP	0.385
LTE Band 2/10MMz /16QAM RB 1 Offset 49	25.98	EIRP	0.396
LTE Band 2/15MMz /QPSK RB 1 Offset 0	25.18	EIRP	0.330
LTE Band 2/15MMz /QPSK RB 1 Offset 74	25.30	EIRP	0.339
LTE Band 2/15MMz /16QAM RB 1 Offset 0	25.82	EIRP	0.382
LTE Band 2/15MMz /16QAM RB 1 Offset 74	25.95	EIRP	0.394
LTE Band 2/20MMz /QPSK RB 1 Offset 0	25.37	EIRP	0.344
LTE Band 2/20MMz /QPSK RB 1 Offset 99	25.22	EIRP	0.333
LTE Band 2/20MMz /16QAM RB 1 Offset 0	26.02	EIRP	0.400
LTE Band 2/20MMz /16QAM RB 1 Offset 99	25.91	EIRP	0.390

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	dBm		W
LTE Band 5/1.4MMz /QPSK RB 1 Offset 0	24.13	ERP	0.259
LTE Band 5/1.4MMz /QPSK RB 1 Offset 5	24.84	ERP	0.305
LTE Band 5/1.4MMz /16QAM RB 1 Offset 0	24.48	ERP	0.281
LTE Band 5/1.4MMz /16QAM RB 1 Offset 5	24.71	ERP	0.296
LTE Band 5/3MMz /QPSK RB 1 Offset 0	23.42	ERP	0.220
LTE Band 5/3MMz /QPSK RB 1 Offset 14	23.90	ERP	0.245
LTE Band 5/3MMz /16QAM RB 1 Offset 0	24.14	ERP	0.259
LTE Band 5/3MMz /16QAM RB 1 Offset 14	24.64	ERP	0.291
LTE Band 5/5MMz /QPSK RB 1 Offset 0	23.28	ERP	0.213
LTE Band 5/5MMz /QPSK RB 1 Offset 24	24.07	ERP	0.255
LTE Band 5/5MMz /16QAM RB 1 Offset 0	24.04	ERP	0.254
LTE Band 5/5MMz /16QAM RB 1 Offset 24	24.74	ERP	0.298
LTE Band 5/10MMz /QPSK RB 1 Offset 0	25.02	ERP	0.318
LTE Band 5/10MMz /QPSK RB 1 Offset 49	24.08	ERP	0.256
LTE Band 5/10MMz /16QAM RB 1 Offset 0	25.23	ERP	0.333
LTE Band 5/10MMz /16QAM RB 1 Offset 49	24.65	ERP	0.292

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S Taiwan Ltd.



4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

EUT was staying in continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing.

The list of channel selected to conduct the measurements

GSM/GPRS/EDGE 850:

Channel Low: AFRCN 128 at 824.2MHz, Channel Mid: AFRCN 190 at 836.6MHz, Channel High: AFRCN 251 at 848.8MHz.

GSM/GPRS/EDGE 1900:

Channel Low: AFRCN 512 at 1850.2MHz, Channel Mid: AFRCN 661 at 1880.0MHz, Channel High AFRCN 810 at 1909.8MHz

WCDMA/HSPA BII:

Channel Low: UAFRCN 9262 at 1852.4MHz, Channel Mid: UAFRCN 9400 at 1880.0MHz, Channel High: UAFRCN 9538 at 1907.6MHz.

WCDMA/HSPA BV:

Channel Low: UAFRCN 4132 at 826.4MHz, Channel Mid: UAFRCN 4183 at 836.6MHz, Channel High: UAFRCN 4233 at 846.6MHz.

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LTE I	32
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Test Frequency	Bandwidth	Channel Number	Frequency of Uplink
	[MHz]		[MHz]
Low	1.4	18607	1850.7
	3	18615	1852.5
	5	18625	1851.5
	10	18650	1855.0
	15	18675	1857.5
	20	18700	1860.0
Middle	1.4/3/5/10/	18900	1880.0
	15/20		
High	1.4	19193	1909.3
	3	19185	1907.5
	5	19175	1908.5
	10	19150	1905.0
	15	19125	1902.5
	20	19100	1900.0

LTE B5:

Test Frequency	Bandwidth	Channel Number	Frequency of Uplink
	[MHz]		[MHz]
Low	1.4	20407	824.7
	3	20415	825.5
	5	20425	826.5
	10	20450	829.0
Middle	1.4/3/	20525	836.5
	5/10		
High	1.4	20643	848.3
	3	20643	848.3
	5	20625	846.5
	10	20600	844.0

The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for GSM/GPRS/EDGE, WCDMA/HSPA Band II / IV/ V, and LTE Band 2 and Band 5 with power adaptor. The worst-case of H position for GSM 850 / GPRS1900, WCDMA/HSPA Band II / V and LTE Band 5, E2 position for LTE Band 2 were reported.

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The evaluation of Test Mode as configured in UE presented on the Test Report:

GSM/GPRS/WCDMA/HSPA:

Radiated Spurious Emission

The Measurement Data of field strength of spurious emission with respect to supported configuration of given application (Transmission Band, Modulation Scheme, Resource Block) have been pre-scanned, and the result that yields in the highest emission close to the limit are presented on the test report.

GSM, WCDMA is the worst-case found in the pre-scanned measurement, and only data that yields the worst case is revealed on the test report.

LTE:

Radiated Spurious Emission

The Measurement Data of field strength of spurious emission with respect to supported configuration of given application (Transmission Band, Modulation Scheme, Resource Block) have been pre-scanned, and the result that yields in the highest emission close to the limit are presented on the test report.

Out of Band Emission at Antenna Terminal, and Bandedge

In comparison among all Out of Band Emission at Antenna Terminal and Bandedge in the variety of combination on LTE band 2 / 5, respectively, It's revealed to generate the highest emission while RB size = 1 with offset 0 (CSE) and RB size = 1 with offset of both extremity for all supported transmission bandwidth of all supported frequency band. Be aware of that only data measurement that yields the worst measurement with supported modulation scheme (QPSK, 16QAM), QPSK – the worst, is shown on the corresponding section.

Peak to Average Ratio

For Peak to Average Ratio test, all combination (RB arrangement with different modulation scheme) has been evaluated, the data with the following configuration: RB number = full and modulation = 16QAM is revealed to generate the worst case result.

Only data that generates the worst-case result is shown on the report.

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MEASUREMENT UNCERTAINTY 5.

Test Items	Uncertainty
RF Power Output	+/- 1.42 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization =+/- 4.62dB
99% Occupied Bandwidth	+/- 123.36 Hz
Out of Band Emissions at Antenna	+/- 1.55 dB
Terminals and Band Edge	
Peak to Average Ratio	+/- 1.55 dB
Frequency Stability vs. Temperature	+/- 123.36 Hz
Frequency Stability vs. Voltage	+/- 123.36 Hz
Temperature	+/- 0.8 °C
Humidity	+/- 4.7 %
DC / AC Power Source	DC= +/- 1%, AC=+/- 0.2%

Radiated Spurious Emission:

	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty	180MHz -417MHz: +/- 3.19dB
(Polarization : Vertical)	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty	167MHz -500MHz: +/- 3.44dB
(Polarization : Horizontal)	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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RF POWER OUTPUT MEASUREMENT 6.

6.1. Standard Applicable:

According to FCC §2.1046.

3GPP Power limitation for HSDPA and HSUPA

Maximum Output Powers for HSDPA

Sub-test in ta-	Power Class 3		Power Class 4	
ble C.10.1.4	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24	+1.7/-3.7	+21	+2.7/-2.7
2	+24	+1.7/-3.7	+21	+2.7/-2.7
3	+23.5	+2.2/-3.7	+20.5	+3.2/-2.7
4	+23.5	+2.2/-3.7	+20.5	+3.2/-2.7

Maximum Output Powers for HSUPA

Sub-test in table	Power (Power Class 3		Class 4
C.11.1.3	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24	+1.7/-6.7	+21	+2.7/-5.7
2	+22	+3.7/-5.2	+19	+4.7/-4.2
3	+23	+2.7/-5.2	+20	+3.7/-4.2
4	+22	+3.7/-5.2	+19	+4.7/-4.2
5	+24	+1.7/-6.7	+21	+2.7/-5.7

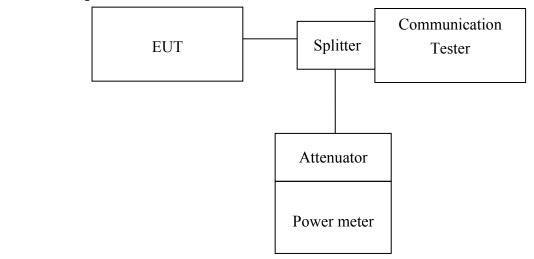
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6.2. Test Set-up:



Note: Measurement setup for testing on Antenna connector

6.3. Measurement Procedure:

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading. TS 151 010-1 is reference to conduct the test measurement of output power.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCDMA/HSPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing, and KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results

Necessary Communication complying with 24.232 (c) and 27.50(d)(4)

Set CMU200 (base-station simulator) MS Signal with packet data submenu; SLOT Configuration Set appropriate level to verify if or not power on mobile station's link with simulator still exists.

6.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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6.5. Measurement Result:

6.5.1. RF Conducted Output Power

6.5.1.1.: GSM/GPRS/EDGE (GMSK; 8-PSK)

Result:

EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Averager Burst Power (dBm)
	824.2	128	32.50	32.40
GSM 850	836.6	190	32.70	32.50
	848.8	251	32.80	32.60

EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Averager Burst Power (dBm)
	1850.2	512	29.70	29.60
GSM 1900	1880.0	661	29.70	29.60
	1909.8	810	30.00	29.90

EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 1UP) Class 8 (dBm)	Average Burst Power (4DN 1UP) Class 8 (dBm)	Peak Power (4DN 2UP) Class 10 (dBm)	Average Burst Power (4DN 2UP) Class 10 (dBm)
	824.2	128	32.50	32.40	29.20	29.10
GPRS 850	836.6	190	32.60	32.50	29.40	29.20
	848.8	251	32.80	32.60	29.60	29.40

EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 3UP) Class 12 (dBm)	Average Burst Power (4DN 3UP) Class 12 (dBm)	Peak Power (4DN 4UP) Class 12 (dBm)	Average Burst Power (4DN 4UP) Class 12 (dBm)
	824.2	128	27.70	27.60	26.90	26.80
GPRS 850	836.6	190	27.80	27.70	27.00	26.90
	848.8	251	28.10	27.90	27.20	27.10

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EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 1UP) Class 8 (dBm)	Average Burst Power (4DN 1UP) Class 8 (dBm)	Peak Power (4DN 2UP) Class 10 (dBm)	Average Burst Power (4DN 2UP) Class 10 (dBm)
	1850.2	512	29.70	29.60	26.40	26.20
GPRS 1900	1880.0	661	29.70	29.60	26.30	26.20
	1909.8	810	30.00	29.90	26.70	26.50

EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 3UP) Class 12 (dBm)	Average Burst Power (4DN 3UP) Class 12 (dBm)	Peak Power (4DN 4UP) Class 12 (dBm)	Average Burst Power (4DN 4UP) Class 12 (dBm)
	1850.2	512	24.60	24.40	24.00	23.90
GPRS 1900	1880.0	661	24.50	24.40	24.00	23.80
	1909.8	810	24.90	24.70	24.30	24.20

EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 1UP) Class 8 (dBm)	Average Burst Power (4DN 1UP) Class 8 (dBm)	Peak Power (4DN 2UP) Class 10 (dBm)	Average Burst Power (4DN 2UP) Class 10 (dBm)
	824.2	128	30.60	27.50	27.80	24.50
EDGE 850	836.6	190	30.80	27.60	27.70	24.60
	848.8	251	30.80	27.60	28.00	24.70

EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 3UP) Class 12 (dBm)	Average Burst Power (4DN 3UP) Class 12 (dBm)	Peak Power (4DN 4UP) Class 12 (dBm)	Average Burst Power (4DN 4UP) Class 12 (dBm)
	824.2	128	26.20	23.10	27.50	24.30
EDGE 850	836.6	190	26.30	23.10	27.50	24.40
	848.8	251	26.40	23.20	27.80	24.50

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EUT Mode	Frequency (MHz)	СН	Peak Power (4DN 1UP) Class 8 (dBm)	Average Burst Power (4DN 1UP) Class 8 (dBm)	Peak Power (1DN 2UP) Class 10 (dBm)	Average Burst Power (1DN 2UP) Class 10 (dBm)
	1850.2	512	29.90	26.90	27.20	24.00
EDGE 1900	1880.0	661	29.70	26.70	27.00	23.90
	1909.8	810	29.90	27.00	27.30	24.20

EUT Mode	Frequency (MHz)	СН	Peak Power (1DN 3UP) Class 12 (dBm)	Average Burst Power (1DN 3UP) Class 12 (dBm)	Peak Power (1DN 4UP) Class 12 (dBm)	Average Burst Power (1DN 4UP) Class 12 (dBm)
	1850.2	512	26.30	23.00	25.10	21.90
EDGE 1900	1880.0	661	26.20	22.90	25.00	21.80
	1909.8	810	26.40	23.20	25.20	22.10

Cable loss offset Low Band: 13.7dB Cable loss offset High Band: 14dB

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6.5.1.2.: WCDMA mode

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 V8.4.0 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7). RMC 12.2kps is used for this testing.

Results:

EUT Mode	Frequency (MHz)	СН	Peak Power	C
	(NHZ) 1852.4	9262	(dBm) 26.91	(dBm) 24.06
WCDMA Band II	1880.0	9400	20.91 27.10	24.00
Dand II	1907.6	9538	26.87	24.44

EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Avg. Power (dBm)
	(WIII <i>Z</i>) 826.4	4132	27.68	(ubii) 24.49
WCDMA Band V	836.6	4183	27.66	24.49
Dalla v	846.6	4233	27.39	24.33

EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Avg. Power (dBm)
HSDPA Band II	1852.4	9262	26.36	22.93
	1880.0	9400	26.57	23.01
Duild II	1907.6	9538	26.70	23.37

EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Avg. Power (dBm)	
HSDPA Band V	826.4	4132	27.08	23.50	
	836.6	4183	27.09	23.41	
	846.6	4233	26.90	23.16	

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EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Avg. Power (dBm)	
HSUPA Band II	1852.4	9262	26.37	22.94	
	1880.0	9400	26.61	23.04	
Duild II	1907.6	9538	26.67	23.39	

EUT Mode	Frequency (MHz)	СН	Peak Power (dBm)	Avg. Power (dBm)	
HSUPA Band V	826.4	4132	27.08	23.53	
	836.6	4183	27.07	23.41	
Duild	846.6	4233	26.88	23.12	

Note: The results above reflect max power with all up bits.

Cable loss offset Low Band: 13.7dB

Cable loss offset High Band: 14dB

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6.5.1.3: MPR Table LTE Band 2_1.4MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	23.85
		18607	1850.7	1	5	23.96
		18007	1830.7	3	2	23.95
				6	0	23.05
				1	0	23.98
1.4	QPSK	18900	1880.0	1	5	23.97
1.4	QPSK	18900	1000.0	3	2	23.98
				6	0	23.07
				1	0	24.18
		19193	1909.3	1	5	24.11
				3	3	23.95
				6	0	23.34
		18607	1850.7	1	0	23.29
				1	5	23.31
				3	2	22.97
				6	0	22.19
				1	0	23.37
1.4	160414	10000	1000.0	1	5	23.38
1.4	16 QAM	18900	1880.0	3	3	22.98
				6	0	22.22
		19193		1	0	23.42
			1909.3	1	5	23.17
				3	2	22.94
				6	0	22.29

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LTE Band 2_3MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	23.97
		10/15	10515	1	14	23.87
		18615	1851.5	8	4	22.99
				15	0	23.06
				1	0	23.92
2	ODCV	10000	1000.0	1	14	23.95
3	QPSK	18900	1880.0	8	4	23.07
				15	0	23.09
				1	0	24.18
		19185	1908.5	1	14	24.11
				8	4	23.27
				15	0	23.33
		18615	1851.5	1	0	22.96
				1	14	22.92
				8	4	22.13
				15	0	22.07
				1	0	23.38
3	1000	10000	1000.0	1	14	23.04
3	16 QAM	18900	1880.0	8	4	22.16
				15	0	22.09
				1	0	23.47
		19185	1009 5	1	14	23.37
			1908.5	8	4	22.32
				15	0	22.28

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LTE Band 2_5MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	23.89
		10.00		1	24	23.91
		18625	1852.5	12	6	23.02
				25	0	22.98
				1	0	24.01
5	ODCV	10000	1000.0	1	24	23.93
5	QPSK	18900	1880.0	12	6	23.07
				25	0	23.02
			1907.5	1	0	24.25
		19175		1	24	24.12
				12	6	23.26
				25	0	23.25
		18625	1852.5	1	0	23.01
				1	24	23.24
				12	6	22.06
				25	0	22.06
				1	0	23.41
5	16 O M	18900	1880.0	1	24	23.35
3	16 QAM	18900	1880.0	12	6	22.12
				25	0	22.01
				1	0	23.55
		19175	1907.5	1	24	23.38
				12	6	22.28
				25	0	22.21

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LTE Band 2_10MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	24.09
		18650	1855.0	1	49	23.93
		18030	1855.0	25	12	22.95
				50	0	23.05
				1	0	24.07
10	ODSK	18900	1880.0	1	49	24.02
10	QPSK	18900	1880.0	25	12	23.03
				50	0	23.03
				1	0	24.17
		19150	1905.0	1	49	24.18
				25	12	23.24
				50	0	23.34
		18650	1855.0	1	0	23.41
				1	49	23.04
				25	12	21.91
				50	0	21.99
				1	0	23.36
10	10041	10000	1000.0	1	49	23.08
10	16 QAM	18900	1880.0	25	12	21.99
				50	0	22.05
				1	0	23.35
		19150	1005.0	1	49	23.18
			1905.0	25	12	22.17
				50	0	22.26

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LTE Band 2_15MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	24.04
		18675	10575	1	74	23.84
		180/3	1857.5	36	19	23.02
				75	0	23.05
				1	0	24
15	ODSK	18900	1880.0	1	74	23.94
15	QPSK	18900	1880.0	36	19	23.05
				75	0	23.11
		19125	1902.5	1	0	24.07
				1	74	24.13
				36	19	23.26
				75	0	23.28
		18675	1857.5	1	0	22.89
				1	74	23
				36	19	22.06
				75	0	22.02
				1	0	23.17
15	16 O M	18900	1880.0	1	74	23.06
15	16 QAM	18900	1880.0	36	19	22.11
				75	0	22.07
		19125		1	0	23.12
			1002.5	1	74	23.11
			1902.5	36	19	22.29
				75	0	22.21

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LTE Band 4_20MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	23.96
		10700	10(0.0	1	99	23.85
		18700	1860.0	50	25	22.97
				100	0	22.97
				1	0	24.04
20	ODGV	10000	1000.0	1	99	23.97
20	QPSK	18900	1880.0	50	25	23.06
				100	0	23.01
		19100	1900.0	1	0	24.09
				1	99	24.18
				50	25	23.26
				100	0	23.16
		18700	1860.0	1	0	22.87
				1	99	22.77
				50	25	21.98
				100	0	21.97
				1	0	23.03
20	16 OAM	10000	1000.0	1	99	22.76
20	16 QAM	18900	1880.0	50	25	22.01
				100	0	22.04
				1	0	22.93
		10100	1000.0	1	99	22.9
		19100	1900.0	50	25	22.22
				100	0	22.12

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LTE Band 5_1.4MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	24
		20407	824.7	1	5	23.95
		20407	824.7	3	2	23.97
				6	0	23.06
				1	0	23.92
1.4	QPSK	20525	836.5	1	5	23.9
1.4	QPSK	20323	630.3	3	2	23.87
				6	0	22.92
		20643	848.3	1	0	23.95
				1	5	23.96
				3	3	23.91
				6	0	22.98
		20407	824.7	1	0	23.3
				1	5	23.43
				3	2	22.99
				6	0	22.28
				1	0	23.28
1.4	16 OAM	20525	836.5	1	5	23.14
1.4	16 QAM	20323	830.3	3	3	22.98
				6	0	22.05
				1	0	23.24
		20642	010 2	1	5	23.16
		20643	848.3	3	2	22.95
				6	0	22.13

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LTE Band 5_3MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	24.1
		20800	2505.0	1	14	24.01
		20800	2303.0	8	4	23.17
				15	0	23.1
				1	0	23.84
3	ODSK	21100	2535.0	1	14	23.82
3	QPSK	21100	2355.0	8	4	23
				15	0	22.92
		21400	2565.0	1	0	23.96
				1	14	23.79
				8	4	23.09
				15	0	23.03
		20800	2505.0	1	0	23.29
				1	14	23.33
				8	4	22.27
				15	0	22.17
				1	0	23.34
3	16 O M	21100	2535.0	1	14	23.14
3	16 QAM	21100	2555.0	8	4	22.1
				15	0	21.88
		21400		1	0	23.38
			2565.0	1	14	23.21
			2565.0	8	4	22.05
				15	0	22.02

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S Taiwan Ltd



LTE Band 5_5MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	24.33
		20425	0065	1	24	24.33
		20425	826.5	12	6	23.4
				25	0	23.37
				1	0	24.28
5	ODCV	20525	836.5	1	24	24.26
5	QPSK	20525	830.3	12	6	23.34
				25	0	23.28
		20625	846.5	1	0	24.38
				1	24	24.31
				12	6	23.42
				25	0	23.4
		20425	826.5	1	0	23.89
				1	24	23.41
				12	6	22.47
				25	0	22.49
				1	0	23.73
5	16.04M	20525	0265	1	24	23.4
3	16 QAM	20525	836.5	12	6	22.43
				25	0	22.3
				1	0	23.54
		20625	0165	1	24	23.74
		20625	846.5	12	6	22.52
				25	0	22.38

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LTE Band 5_10MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power (dBm)
				1	0	24.36
		20450	829.0	1	49	24.27
		20430	829.0	25	12	23.33
				50	0	23.37
				1	0	24.36
10	ODSK	20525	836.5	1	49	24.29
10	QPSK	20323	830.3	25	12	23.28
				50	0	23.27
		20600	844.0	1	0	24.37
				1	49	24.27
				25	12	23.31
				50	0	23.31
		20450	829	1	0	23.57
				1	49	23.39
				25	12	22.44
				50	0	22.38
				1	0	23.42
10	16 OAM	20525	836.5	1	49	23.48
10	16 QAM	20525	830.3	25	12	22.43
				50	0	22.31
				1	0	23.48
		20600	844.0	1	49	23.38
			844.0	25	12	22.44
				50	0	22.34

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6.5.1.4:HSDPA Release 6 mode

The following 4 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C10.1.4 & C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing.

HSDPA SUB-TEST Setting

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	β _c	β_d	β _d (SF)	β _c /β _d	β _{HS} (Note1, Note 2)	CM (dB) (<i>Note 3</i>)	MPR (dB) (Note 3)	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

Note: The recommended HSDPA MPRs are implemented as per following sub-tests.

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S Taiwan L



Results:	
ncounts.	

Mode	Sub-test	Avg.	Power (d Channel	Bm)	Power Class 3 Limita- tion (dBm)	Comments	
		9262	9400	9538			
	1	24.28	24.37	24.63	20.3dBm – 25.7dBm	Pass	
HSDPA	2	23.99	24.01	24.31	20.3dBm – 25.7dBm	Pass	
(B2)	3	23.82	23.89	24.14	19.8dBm – 25.7dBm	Pass	
	4	23.87	23.93	24.20	19.8dBm – 25.7dBm	Pass	

Mode	Sub-test	Avg.	Power (d Channel	Bm)	Power Class 3 Limita-	Comments	
		4132	4183	4233	tion (dBm)		
	1	24.71	24.71	24.52	20.3dBm – 25.7dBm	Pass	
HSDPA	2	24.42	24.35	24.20	20.3dBm - 25.7dBm	Pass	
(B5)	3	24.25	24.23	24.03	19.8dBm – 25.7dBm	Pass	
	4	24.30 24.27		24.09	19.8dBm – 25.7dBm	Pass	

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6.5.1.4.: HSPA (HSDPA & HSUPA) Release 6 mode

The following 5 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing

HSPA SUB-TEST Setting

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH(FOR HSUPA)

Sub- test	β _c	β_d	β _d (SF)	β_c/β_d	$\beta_{\rm HS}$	β_{ec}	β_{ed}	β _{ed} (SF)	β _{ed} (Codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps)
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed} 1: 47/15 β_{ed} 2: 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

Note: The recommended HSUPA MPRs are implemented as per following sub-tests.

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Results:	
ncounts.	

Mode	Sub-test	Avg.	Power (d Channel	Bm)	Power Class 3 Limita-	Comments
	9262 9400 9538		tion (dBm)			
	1	24.02	24.05	4.05 24.35 18.8dBm – 25.7dB		Pass
	2	22.08	22.13	22.39	16.8dBm – 25.7dBm	Pass
HSUPA(B2)	3	22.99	23.11	23.38	17.8dBm – 25.7dBm	Pass
	4 22.13 22.19 22.47		16.8dBm – 25.7dBm	Pass		
5 23.88 23		23.88	24.24	18.8dBm – 25.7dBm	Pass	

Mode	Sub-test	Avg.	Power (d Channel	Bm)	Power Class 3 Limita- tion (dBm)	Comments
		4132 4183 4233		uon (abm)		
	1	24.45	24.39	24.27	18.8dBm – 25.7dBm	Pass
	2	22.51	22.47	22.28	16.8dBm – 25.7dBm	Pass
HSUPA(B5)	3	23.42	23.45	23.27	17.8dBm – 25.7dBm	Pass
	4	22.56	22.53	22.36	16.8dBm – 25.7dBm	Pass
	5 24.31 24.22 24.13		18.8dBm – 25.7dBm	Pass		

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PCS 1900 band	l								
PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	29.6	28	26	24.1	22	19.9	18.2	16.1	14.2
PCL	9	10	11	12	13	14	15		
Output power (dBm)	12	10.1	8.2	6.3	4.2	2	0.1		

6.5.2. Minimum Communications Power Measurement

Note: The EUT output power was controlled by simulator. Set Communication Tester CMU200 PCL as above, and get the mobile phone output power reading.

WCDMA/HSDPA/HSUPA band II, IV, V

The EUT output power was controlled by simulator. Set Communication Tester CMU200 function key "UE Power Control" and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. Then record the read (see page 15 for measurement data). The min. power was measures by a function key "minimum power" then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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7. ERP, EIRP MEASUREMENT

7.1. Standard Applicable:

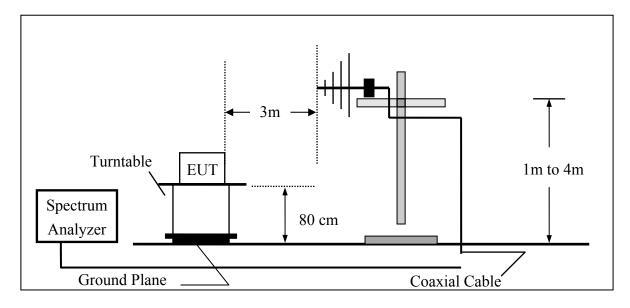
According to FCC §2.1046

FCC 22.913(a) Mobile station is limited to 7W ERP.

FCC 24.232(b) Mobile station is limited to 2W EIRP.

7.2. Test SET-UP (Block Diagram of Configuration):

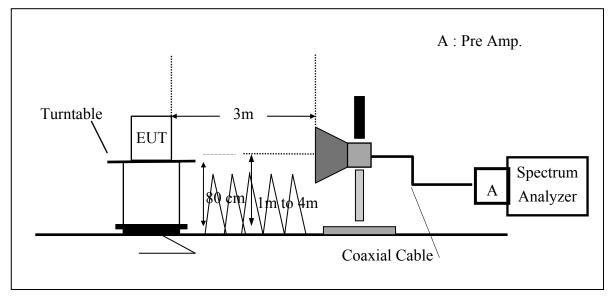
(A) Radiated Power Test Set-Up, Frequency Below 1000MHz



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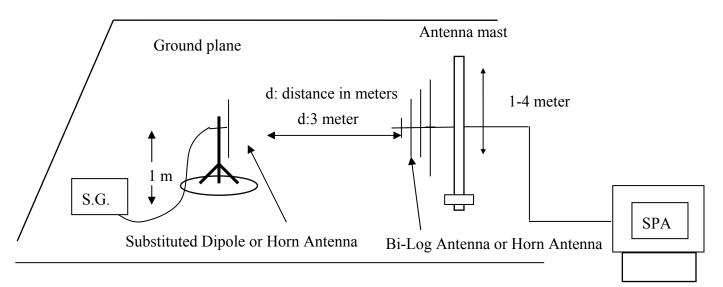
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(B) Radiated Power Test Set-UP Frequency Over 1 GHz

(C) Substituted Method Test Set-UP



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7.3. Measurement Procedure:

The EUT was placed on a non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824.2 –848.80MHz and 824.7 –848.30MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

EIRP in frequency band 1850.2 –1909.8MHz and 1850.7 –1909.3MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB) EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)

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Spectrum setting:

1. Detector = Peak, marker the highest value of the detector by maximum hold, set RBW wide enough to capture the entire signal of emission, and VBW > =3xRBW.

Or,

2. KDB 971168 D01 Power Meas License Digital Systems v01 is adopted, and the procedure as lists under item 4, Measurement of the Average Power over the Fundamental Signal Bandwidth, is followed to set correspondingly for the acquisition of proper measurement data.

Set frequency = nominal signal center frequency;

Set span = 2×0 occupied BW;

Set RBW $\approx 1 \sim 5\%$ of the span, not to exceed 1 MHz

Set VBW = $3 \times RBW$;

Select average power (RMS) detector

Set sweep time and number of measurement points to achieve a minimum of 1 millisecond/pt integration time (ex. Point = 601 points, then sweet time = $601*10^{-3} = 6$ s.

Activate trace averaging routine over a minimum of 10 sweeps; Activate marker/span pair and set span = signal or channel bandwidth; Activate the band/interval power marker function; Record the band power level;

Record adjusted value as the average signal power level. Then activate the occupied bandwidth measurement function.

The proper adjustment due to limitation of spectrum capability is given compensated to spectrum with conversion factor of 10*log (TBW/RBW), where TBW is the transmission of UE exceeding the maximum BW UE can extends, and RBW is the resolution BW in UE.

7.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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7.5. Measurement Result: (Peak) –using option of peak measurement

	EUT			Measurement							
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit			
	MHz		V/H	dBm	dBd	dB	dBm	dBm			
	824.2	128	V	24.04	3.75	-3.03	24.77	38.45			
	824.2	120	Н	21	3.75	-3.03	21.72	38.45			
GSM 850	0766	190	V	22.93	3.76	-3.07	23.62	38.45			
USIVI 850	836.6	190	Н	21	3.76	-3.07	21.7	38.45			
	848.8	251	V	23.58	3.77	-3.11	24.25	38.45			
		251	Н	19.19	3.77	-3.11	19.85	38.45			

	EUT				Measur	ement	-	
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	824.2	128	V	23.78	3.75	-3.03	24.51	38.45
	024.2	128	Н	20.66	3.75	-3.03	21.39	38.45
GPRS 850	836.6	190	V	22.63	3.76	-3.07	23.32	38.45
UFK5 650	830.0	190	Н	20.59	3.76	-3.07	21.28	38.45
	010 0	848.8 251	V	23.39	3.77	-3.11	24.05	38.45
	040.0		Н	18.52	3.77	-3.11	19.18	38.45

	EUT			Measurement							
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit			
	MHz		V/H	dBm	dBd	dB	dBm	dBm			
	824.2	128	V	22.6	3.75	-3.03	23.32	38.45			
	824.2	128	Н	19.69	3.75	-3.03	20.41	38.45			
EDGE 850	836.6	190	V	22.03	3.76	-3.07	22.73	38.45			
EDGE 850	830.0	190	Н	19.7	3.76	-3.07	20.39	38.45			
	848.8	251	V	22.32	3.77	-3.11	22.98	38.45			
	040.0	231	Н	17.18	3.77	-3.11	17.84	38.45			

(1) The RBW, VBW of SPA for frequency RBW=300 KHz, VBW=1MHz **Remark**:

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	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1850.2	512	V	25.5	5.22	-4.67	26.05	33.01
	1830.2	312	Н	20.34	5.22	-4.67	20.9	33.01
GSM 1900	1880.0	661	V	26.24	5.16	-4.7	26.69	33.01
GSWI 1900	1880.0	001	Н	23.13	5.16	-4.7	23.58	33.01
	1909.8	810	V	25.55	5.09	-4.74	25.91	33.01
	1909.8	010	Н	23.38	5.09	-4.74	23.74	33.01

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1850.2	512	V	25.4	5.22	-4.67	25.95	33.01
	1830.2	312	Н	20.07	5.22	-4.67	20.62	33.01
GPRS 1900	1880.0	661	V	25.8	5.16	-4.7	26.25	33.01
GPK5 1900	1880.0	001	Н	21.79	5.16	-4.7	22.24	33.01
	1909.8 810	<u>810</u>	V	25.37	5.09	-4.74	25.73	33.01
	1909.0	010	Н	23.08	5.09	-4.74	23.43	33.01

	EUT			Measurement							
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit			
	MHz		V/H	dBm	dBi	dB	dBm	dBm			
	1850.2	512	V	25.02	5.22	-4.67	25.57	33.01			
	1830.2	312	Н	19.61	5.22	-4.67	20.17	33.01			
EDGE 1900	1880.0	661	V	25.52	5.16	-4.7	25.97	33.01			
EDGE 1900	1880.0	80.0 661	Н	21.33	5.16	-4.7	21.78	33.01			
	1909.8 810	Q10	V	25.15	5.09	-4.74	25.5	33.01			
		810	Н	22.73	5.09	-4.74	23.09	33.01			

Remark :

(1) The RBW, VBW of SPA for frequency RBW=300K, VBW=1MHz

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	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1852.4	9262	V	22.17	5.22	-4.67	22.71	33.01
	1832.4	9202	Н	16.41	5.22	-4.67	16.96	33.01
WCDMA B2	1880.0	9400	V	22.18	5.16	-4.7	22.63	33.01
WCDWA B2	1880.0	9400	Н	17.26	5.16	-4.7	17.72	33.01
	1907.6 95	9538	V	21.51	5.1	-4.74	21.87	33.01
	1907.0	7530	Н	18.25	5.1	-4.74	18.61	33.01

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1852.4	9262	V	21.83	5.22	-4.67	22.38	33.01
	1832.4	9202	Н	15.99	5.22	-4.67	16.54	33.01
HSDPA B2	1880.0	0400	V	21.96	5.16	-4.7	22.42	33.01
ISDFA D2	1880.0	9400	Н	16.61	5.16	-4.7	17.07	33.01
	1907.6	5 9538 -	V	20.97	5.1	-4.74	21.33	33.01
	1907.0	7530	Н	17.91	5.1	-4.74	18.27	33.01

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1852.4	9262	V	21.45	5.22	-4.67	22.00	33.01
	1832.4	9202	Н	15.78	5.22	-4.67	16.33	33.01
HSUPA B2	1880.0	9400	V	20.66	5.16	-4.7	21.12	33.01
IISUFA B2	1880.0	9400	Н	16.37	5.16	-4.7	16.82	33.01
	1907.6	0528	V	20.59	5.1	-4.74	20.95	33.01
	1907.0	9538	Н	17.54	5.1	-4.74	17.9	33.01

Remark:

(1)The RBW, VBW of SPA for frequency RBW= 5MHz, VBW= 8MHz

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	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	826.4	4132	V	18.05	3.76	-3.04	18.77	38.45
	820.4	4132	Н	15.18	3.76	-3.03	15.9	38.45
WCDMA B5	836.6	4183	V	18.53	3.76	-3.07	19.22	38.45
WCDMA B3	830.0	4185	Н	15.28	3.76	-3.07	15.98	dBm 38.45 38.45
-	846.6	4233	V	17.78	3.77	-3.1	18.45	38.45
	040.0	4233	Н	13.85	3.77	-3.1	14.51	38.45

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	826.4	4132	V	18.02	3.76	-3.03	18.74	38.45
	820.4	4132	Н	15.02	3.76	-3.03	15.75	38.45
HSDPA B5	836.6	4183	V	18.31	3.76	-3.07	19.01	38.45
пзрра вз	830.0	4185	Н	15.02	3.76	-3.07	15.71	38.45
	846.6	4233	V	17.62	3.77	-3.1	18.28	38.45
	040.0	4233	Н	13.64	3.77	-3.1	14.31	38.45

	EUT				Measur	ement		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dBd	dB	dBm	dBm
	826.4	4132	V	17.94	3.76	-3.03	18.66	38.45
	820.4	4132	Н	14.75	3.76	-3.03	15.48	38.45
	836.6	4183	V	18.04	3.76	-3.07	18.74	38.45
HSUPA B5	830.0	4185	Н	14.92	3.76	-3.07	15.62	38.45
	846.6	4233	V	17.47	3.77	-3.1	18.14	38.45
	040.0	4233	Н	13.44	3.77	-3.1	14.11	38.45

Remark :

(1) The RBW, VBW of SPA for frequency RBW= 5MHz, VBW= 8MHz

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BAND 2 / BW: 1.4M / QPSK / RB: 1,0

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
			V	19.02	5.22	-4.67	19.57	33.01
BAND 2	1850.7	18607	Н	24.49	5.22	-4.67	25.05	33.01
BW: 1.4M /		10000	V	17.49	5.16	-4.7	17.94	33.01
QPSK	1880.0	18900	Н	24.72	5.16	-4.7	25.18	33.01
RB: 1,0		10100	V	20.85	5.1	-4.74	21.21	33.01
	1909.3	19193	Н	24.4	5.1	-4.74	24.76	33.01

BAND 2 / BW: 1.4M / QPSK / RB: 1,5

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
			V	18.32	5.22	-4.67	18.87	33.01
BAND 2	1850.7	18607	Н	24.63	5.22	-4.67	25.18	33.01
BW: 1.4M	1000.0	10000	V	17.62	5.16	-4.7	18.07	33.01
QPSK	1880.0	18900	Н	24.81	5.16	-4.7	25.27	33.01
RB: 1,5	1000.0	10100	V	20.83	5.09	-4.74	21.19	33.01
	1909.3	19193	Н	23.82	5.09	-4.74	24.18	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 1.4M / 16QAM / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1950 7	19607	V	18.77	5.23	-4.67	19.32	33.01
BAND 2	1850.7	18607	Н	24.96	5.23	-4.67	25.51	33.01
BW: 1.4M	1880.0	18900	V	18.03	5.16	-4.7	18.48	33.01
16QAM	1880.0	18900	Н	25.21	5.16	-4.7	25.67	33.01
RB: 1,0	B •10	19193	V	21.27	5.1	-4.74	21.63	33.01
		17195	Н	24.55	5.1	-4.74	24.91	33.01

BAND 2 / BW: 1.4M / 16QAM / RB: 1,5

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1850.7	18607	V	18.73	5.22	-4.67	19.29	33.01
BAND 2	1830.7	18007	Н	25.17	5.22	-4.67	25.73	33.01
BW: 1.4M	1880.0	18900	V	18.23	5.16	-4.7	18.68	33.01
16QAM	1880.0	18900	Н	25.43	5.16	-4.7	25.89	33.01
RB: 1,5	5	19193	V	21.32	5.09	-4.74	21.68	33.01
		17193	Н	24.32	5.09	-4.74	24.68	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 3M / QPSK / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1951 5	10(15	V	18.22	5.23	-4.67	18.77	33.01
BAND 2	1851.5	18615	Н	24.53	5.23	-4.67	25.08	33.01
BW: 3M	1990.0	18900	V	17.33	5.16	-4.7	17.79	33.01
QPSK	QPSK 1880.0	18900	Н	24.45	5.16	-4.7	24.91	33.01
RB: 1,0		10195	V	20.25	5.1	-4.74	20.62	33.01
		1908.5 19	1908.5 19185	Н	24.26	5.1	-4.74	24.62

BAND 2 / BW: 3M / QPSK / RB: 1,14

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1851.5	18615	V	18.07	5.22	-4.67	18.62	33.01
BAND 2	1831.5	18013	Н	24.56	5.22	-4.67	25.11	33.01
BW: 3M	1990.0	10000	V	17.68	5.16	-4.71	18.13	33.01
QPSK RB: 1,14	1880.0	1880.0 18900	Н	24.51	5.16	-4.71	24.96	33.01
	1908.5	19185	V	19.76	5.09	-4.74	20.11	33.01
	1708.5	17103	Н	23.74	5.09	-4.74	24.1	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 3M / 16QAM / RB: 1,0

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1951 5	10615	V	18.34	5.23	-4.67	18.9	33.01
BAND 2	1851.5	18615	Н	25.21	5.22	-4.67	25.76	33.01
BW: 3M	1880.0	18900	V	17.88	5.16	-4.7	18.34	33.01
16QAM RB: 1,0	1880.0	18900	Н	25.02	5.16	-4.7	25.48	33.01
	1908.5	19185	V	20.66	5.1	-4.74	21.02	33.01
	1908.5	19183	Н	24.81	5.1	-4.73	25.17	33.01

BAND 2 / BW: 3M / 16QAM / RB: 1,14

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1851.5	18615	V	18.64	5.22	-4.67	19.18	33.01
BAND 2	1831.5	18013	Н	25.1	5.22	-4.67	25.65	33.01
BW: 3M	1880.0	18900	V	18.28	5.16	-4.71	18.73	33.01
16QAM RB: 1,14	1880.0	18900	Н	25.08	5.16	-4.7	25.53	33.01
	1908.5	19185	V	19.79	5.09	-4.74	20.14	33.01
	1708.5	17103	Н	24.22	5.09	-4.74	24.58	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 5M / QPSK / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1050 5	18625	V	18.34	5.22	-4.67	18.89	33.01	
BAND 2	1852.5		Н	24.64	5.23	-4.67	25.19	33.01	
BW: 5M	1880.0	18900	V	17.2	5.16	-4.7	17.66	33.01	
QPSK	1880.0	18900	Н	24.45	5.16	-4.7	24.92	33.01	
RB: 1,0	1907.5	19175	V	20.36	5.1	-4.73	20.73	33.01	
	1907.5	191/3	Н	24.32	5.1	-4.73	24.69	33.01	

BAND 2 / BW: 5M / QPSK / RB: 1,24

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1852.5	18625	V	17.67	5.22	-4.67	18.21	33.01	
BAND 2	1832.5	18025	Н	24.58	5.22	-4.67	25.12	33.01	
BW: 5M	1880.0	10000	V	24.55	5.15	-4.71	25	33.01	
QPSK	1880.0	0 18900	Н	17.57	5.15	-4.71	18.01	33.01	
RB: 1,24	1907.5	19175	V	20.68	5.09	-4.74	21.04	33.01	
	1907.5	171/3	Н	23.87	5.09	-4.74	24.23	33.01	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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BAND 2 / BW: 5M / 16QAM / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1952 5	18625	V	18.19	5.22	-4.67	18.75	33.01	
BAND 2	1852.5		Н	25.24	5.22	-4.67	25.79	33.01	
BW: 5M	1880.0	18900	V	17.77	5.17	-4.7	18.23	33.01	
16QAM	1880.0	18900	Н	25.02	5.16	-4.7	25.48	33.01	
RB: 1,0	1907.5	10175	V	20.55	5.1	-4.73	20.92	33.01	
	1907.5	19175	Н	24.88	5.1	-4.73	25.25	33.01	

BAND 2 / BW: 5M / 16QAM / RB: 1,24

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1952.5	18625 -	V	18.35	5.22	-4.67	18.89	33.01	
BAND 2	1852.5		Н	25.16	5.22	-4.67	25.7	33.01	
BW: 5M	1880.0	18900	V	18.24	5.15	-4.71	18.69	33.01	
16QAM	1880.0	18900	Н	25.19	5.16	-4.71	25.64	33.01	
RB: 1,24	1,24 1907.5	19175	V	21.27	5.09	-4.74	21.63	33.01	
	1907.5	191/3	Н	24.4	5.09	-4.74	24.76	33.01	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 10M / QPSK / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1855.0	18650	V	18.44	5.22	-4.67	18.99	33.01	
BAND 2			Н	24.48	5.22	-4.67	25.03	33.01	
BW: 10M	1880.0	10000	V	16.18	5.17	-4.7	16.65	33.01	
QPSK	1880.0	18900	Н	24.2	5.17	-4.7	24.67	33.01	
RB: 1,0	1005.0	19150	V	17.82	5.11	-4.73	18.2	33.01	
	1905.0		Н	23.93	5.11	-4.73	24.32	33.01	

BAND 2 / BW: 10M / QPSK / RB: 1,49

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1055.0	18650 -	V	16.06	5.2	-4.68	16.59	33.01	
BAND 2	1855.0		Н	24.37	5.21	-4.68	24.9	33.01	
BW: 10M	1880.0	18900	V	16.88	5.15	-4.71	17.32	33.01	
QPSK	1880.0	18900	Н	24.85	5.15	-4.71	25.3	33.01	
RB: 1,49	1905.0	19150	V	20.72	5.09	-4.74	21.08	33.01	
	1903.0	19130	Н	23.85	5.09	-4.74	24.21	33.01	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 10M / 16QAM / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1855.0	18650	V	18.28	5.22	-4.67	18.83	33.01	
BAND 2	1855.0	18030	Н	25.3	5.22	-4.67	25.86	33.01	
BW: 10M	1880.0	18000	V	16.73	5.17	-4.7	17.2	33.01	
16QAM	1880.0	0.0 18900	Н	24.81	5.17	-4.7	25.28	33.01	
RB: 1,0	RB: 1,0 1905.0	19150	V	18.37	5.11	-4.73	18.75	33.01	
	1903.0	19130	Н	24.48	5.11	-4.73	24.87	33.01	

BAND 2 / BW: 10M / 16QAM / RB: 1,49

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1855.0	18650	V	16.77	5.21	-4.68	17.3	33.01	
BAND 2	1855.0	18030	Н	25.08	5.21	-4.68	25.61	33.01	
BW: 10M	1880.0	18900	V	17.68	5.15	-4.71	18.12	33.01	
16QAM	1880.0	18900	Н	25.54	5.15	-4.71	25.98	33.01	
RB: 1,49	1905.0	19150	V	21.32	5.1	-4.74	21.68	33.01	
	1903.0	17130	Н	24.43	5.09	-4.74	24.78	33.01	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 15M / QPSK / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1857.5	18675	V	18.42	5.22	-4.67	18.97	33.01	
BAND 2	1857.5	18075	Н	24.63	5.22	-4.67	25.18	33.01	
BW: 15M	1880.0	12000	V	14.85	5.17	-4.7	15.33	33.01	
QPSK	1880.0	18900 -	Н	24.2	5.17	-4.7	24.68	33.01	
RB: 1,0	1902.5	19125	V	21.21	5.12	-4.72	21.61	33.01	
	1902.5	19123	Н	24.67	5.12	-4.72	25.07	33.01	

BAND 2 / BW: 15M / QPSK / RB: 1,74

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit	
	MHz		V/H	dBm	dBi	dB	dBm	dBm	
	1857.5	18675 -	V	13.79	5.19	-4.69	14.3	33.01	
BAND 2	1837.5		Н	24.51	5.19	-4.69	25.02	33.01	
BW: 15M	1880.0	18900	V	16.51	5.14	-4.71	16.94	33.01	
QPSK	1880.0	18900	Н	24.87	5.14	-4.71	25.3	33.01	
RB: 1,74	1902.5	19125	V	18.28	5.1	-4.74	18.64	33.01	
	1702.5	17123	Н	24.22	5.1	-4.74	24.58	33.01	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 15M / 16QAM / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1057.5	18675	V	19.02	5.22	-4.67	19.57	33.01
BAND 2	1857.5	180/5	Н	25.26	5.22	-4.67	25.82	33.01
BW: 15M	1990.0	10000	V	15.51	5.17	-4.7	15.99	33.01
16QAM	1880.0	1880.0 18900 -	Н	24.84	5.17	-4.7	25.32	33.01
RB: 1,0	1902.5	19125	V	21.8	5.12	-4.72	22.21	33.01
		19123	Н	25.24	5.12	-4.72	25.64	33.01

BAND 2 / BW: 15M / 16QAM / RB: 1,74

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1857.5	18675	V	14.48	5.2	-4.68	14.99	33.01
BAND 2	1837.5	18073	Н	25.1	5.2	-4.69	25.61	33.01
BW: 15M	1880.0	18900	V	17.25	5.14	-4.71	17.68	33.01
16QAM	1880.0	18900	Н	25.51	5.15	-4.71	25.95	33.01
RB: 1,74	1902.5	19125	V	18.87	5.09	-4.74	19.23	33.01
		17123	Н	24.81	5.09	-4.74	25.16	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 20M / QPSK / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1860.0	19700	V	18.36	5.22	-4.67	18.92	33.01
BAND 2	1860.0	18700	Н	24.69	5.22	-4.67	25.24	33.01
BW: 20M	1990.0	12000	V	13.56	5.18	-4.69	14.04	33.01
QPSK	1880.0	380.0 18900 -	Н	24.39	5.18	-4.69	24.87	33.01
RB: 1,0	1900.0 19	19100	V	20.59	5.13	-4.72	21.01	33.01
		19100	Н	24.96	5.13	-4.72	25.37	33.01

BAND 2 / BW: 20M / QPSK / RB: 1,99

	EUT			Ν	Measurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1860.0	18700	V	12.55	5.18	-4.69	13.04	33.01
BAND 2	1800.0	18/00	Н	24.21	5.18	-4.69	24.7	33.01
BW: 20M	1990.0	10000	V	16.47	5.16	-4.7	16.93	33.01
QPSK	1880.0	1880.0 18900	Н	24.8	5.14	-4.71	25.22	33.01
RB: 1,99	1900.0	19100	V	18.6	5.1	-4.74	18.96	33.01
		19100	Н	24.38	5.1	-4.74	24.74	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 2 / BW: 20M /16QAM / RB: 1,0

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1860.0	19700	V	19.08	5.22	-4.67	19.63	33.01
BAND 2	AND 2 1860.0 1870	18/00	Н	25.19	5.22	-4.67	25.75	33.01
BW: 20M	1880.0	12000	V	14.11	5.18	-4.69	14.6	33.01
16QAM	1880.0	18900 -	Н	24.97	5.18	-4.69	25.45	33.01
RB: 1,0	1900.0 1910	10100	V	21.31	5.13	-4.72	21.72	33.01
		19100	Н	25.6	5.13	-4.72	26.02	33.01

BAND 2 / BW: 20M / 16QAM / RB: 1,99

	EUT			N	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
	MHz		V/H	dBm	dBi	dB	dBm	dBm
	1860.0	18700	V	13.15	5.18	-4.69	13.64	33.01
BAND 2	1800.0	18/00	Н	24.76	5.18	-4.69	25.25	33.01
BW: 20M	1880.0	18900	V	17.18	5.16	-4.7	17.64	33.01
16QAM	1880.0	18900	Н	25.49	5.14	-4.71	25.91	33.01
RB: 1,99	1900.0	19100	V	19.21	5.1	-4.74	19.57	33.01
		19100	Н	24.94	5.1	-4.74	25.3	33.01

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 1.4M / QPSK / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
			V	22.87	3.76	-3.03	23.59	38.45
BAND 5	824.7	20407	Н	17.65	3.76	-3.03	18.37	38.45
BW: 1.4M/			V	23.43	3.76	-3.06	24.13	38.45
QPSK	836.5	20525	Н	18.19	3.76	-3.06	18.89	38.45
RB: 1,0	·		V	22.4	3.77	-3.1	23.07	38.45
	848.3	20643	Н	16.42	3.77	-3.1	17.08	38.45

BAND 5 / BW: 1.4M / QPSK / RB: 1,5

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	824.7	20407	V	23.01	3.76	-3.03	23.74	38.45
BAND 5	824.7	20407	Н	17.63	3.76	-3.03	18.36	38.45
BW: 1.4M	836.5	20525	V	24.15	3.76	-3.07	24.84	38.45
QPSK	830.5	20525 -	Н	18.14	3.76	-3.07	18.84	38.45
RB: 1,5	848.3 20643	V	22.43	3.77	-3.1	23.09	38.45	
	040.3	848.3 20643 -	Н	16.48	3.77	-3.1	17.14	38.45

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 1.4M / 16QAM / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	824.7	20407	V	23.4	3.76	-3.03	24.12	38.45
BAND 5	824.7	20407	Н	18.03	3.75	-3.03	18.75	38.45
BW: 1.4M	826.5	20525	V	23.78	3.76	-3.07	24.48	38.45
16QAM	830.5	836.5 20525	Н	18.69	3.76	-3.06	19.39	38.45
RB: 1,0	848.3 2	20643	V	22.91	3.77	-3.1	23.58	38.45
		20043	Н	16.98	3.77	-3.1	17.64	38.45

BAND 5 / BW: 1.4M / 16QAM / RB: 1,5

	EUT			N	Measurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	824.7	20407	V	22.92	3.76	-3.03	23.65	38.45
BAND 5	824.7	20407	Н	17.63	3.76	-3.03	18.35	38.45
BW: 1.4M	836.5	20525	V	24.01	3.76	-3.07	24.71	38.45
16QAM	830.3	20525 -	Н	18.94	3.76	-3.07	19.64	38.45
RB: 1,5	848.3 20643	20643	V	22.98	3.77	-3.1	23.64	38.45
		Н	17.12	3.77	-3.1	17.79	38.45	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 3M / QPSK / RB: 1,0

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	825.5	20415	V	22.7	3.76	-3.03	23.42	38.45
BAND 5	825.5	20415	Н	17.12	3.75	-3.03	17.84	38.45
BW: 3M	836.5	20525	V	22.66	3.76	-3.06	23.36	38.45
QPSK	830.5	5.5 20525	Н	17.64	3.76	-3.06	18.34	38.45
RB: 1,0	10	20635	V	22.23	3.77	-3.1	22.9	38.45
		20033	Н	16.29	3.77	-3.1	16.96	38.45

BAND 5 / BW: 3M / QPSK / RB: 1,14

	EUT			Ν	Aeasurem	ent		
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	825.5	20415	V	21.79	3.76	-3.03	22.51	38.45
BAND 5	823.3	20413	Н	16.53	3.76	-3.03	17.25	38.45
BW: 3M	836.5	20525	V	23.2	3.76	-3.07	23.9	38.45
QPSK	830.3	5.5 20525	Н	18.07	3.76	-3.07	18.76	38.45
RB: 1,14	817 5	20635	V	22.31	3.77	-3.1	22.98	38.45
	• 847.5	20033	Н	16.41	3.77	-3.11	17.07	38.45

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 3M / 16QAM / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit	
	MHz		V/H	dBm	dB	dB	dBm	dBm	
BAND 5 BW: 3M 16QAM RB: 1,0	825.5	20415	V	23.41	3.75	-3.03	24.14	38.45	
			Н	17.67	3.75	-3.03	18.4	38.45	
	836.5	20525	V	23.36	3.76	-3.06	24.06	38.45	
		20323	Н	18.42	3.76	-3.06	19.11	38.45	
	847.5	20625	V	22.78	3.77	-3.1	23.45	38.45	
		20635	Н	16.93	3.77	-3.1	17.6	38.45	

BAND 5 / BW: 3M / 16QAM / RB: 1,14

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
BAND 5 BW: 3M 16QAM RB: 1,14	825.5	20415	V	22.67	3.76	-3.04	23.39	38.45
	823.3	20413	Н	17.04	3.76	-3.03	17.76	38.45
	836.5	20525	V	23.95	3.76	-3.07	24.64	38.45
		20323	Н	18.93	3.76	-3.07	19.62	38.45
	847.5	RB: 1,14	V	22.86	3.77	-3.11	23.52	38.45
		20635	Н	17.02	3.77	-3.1	17.68	38.45

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 5M / QPSK / RB: 1,0

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit	
	MHz		V/H	dBm	dB	dB	dBm	dBm	
BAND 5 BW: 5M QPSK RB: 1,0	826.5	20425	V	22.56	3.75	-3.03	23.28	38.45	
			Н	17.28	3.75	-3.03	18.01	38.45	
	836.5	20525	V	22.57	3.76	-3.06	23.28	38.45	
		20323	Н	17.59	3.76	-3.06	18.29	38.45	
	846.5	946.5 204	20625	V	22.3	3.77	-3.09	22.98	38.45
		20625	Н	16.49	3.76	-3.09	17.17	38.45	

BAND 5 / BW: 5M / QPSK / RB: 1,24

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
BAND 5 BW: 5M QPSK RB: 1,24	826.5	20425	V	21.78	3.76	-3.04	22.5	38.45
	820.5	20423	Н	16.76	3.76	-3.04	17.47	38.45
	836.5	20525	V	23.38	3.76	-3.07 24.0	24.07	38.45
		20323	Н	18.22	3.76	-3.07	18.91	38.45
	846.5	20625 -	V	22.33	3.77	-3.1	22.99	38.45
			Н	16.46	3.77	-3.1	17.12	38.45

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 5M / 16QAM / RB: 1,0

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	826.5	20.425	V	23.02	3.75	-3.03	23.74	38.45
BAND 5	826.5	20425	Н	17.69	3.75	-3.03	18.41	38.45
BW: 5M	836.5	20525	V	23.34	3.76	-3.06	24.04	38.45
16QAM	830.5	20323	Н	18.43	3.76	-3.06	19.13	38.45
RB: 1,0	846.5	20625 -	V	22.81	3.76	-3.09	23.49	38.45
	640.5	20023	Н	17.1	3.77	-3.09	17.77	38.45

BAND 5 / BW: 5M / 16QAM / RB: 1,24

EUT			Measurement						
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit	
	MHz		V/H	dBm	dB	dB	dBm	dBm	
	826.5	20425 -	V	22.3	3.76	-3.04	23.01	38.45	
BAND 5	820.3		Н	17.14	3.76	-3.04	17.86	38.45	
BW: 5M	836.5	20525	V	24.05	3.76	-3.07	24.74	38.45	
16QAM	050.5 20525	20323	0.5 20525	Н	19	3.76	-3.07	19.69	38.45
RB: 1,24	846.5	20625	V	23.06	3.77	-3.1	23.72	38.45	
	840.5	20023	Н	17.24	3.77	-3.1	17.91	38.45	

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 10M / QPSK / RB: 1,0

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	820.0	29.0 20450 -	V	23.25	3.75	-3.03	23.97	38.45
BAND 5	829.0		Н	17.88	3.75	-3.03	18.61	38.45
BW: 10M	836.5	20525	V	22.41	3.76	-3.05	23.11	38.45
QPSK	650.5 20525	550.5 20525	Н	17.34	3.76	-3.05	18.04	38.45
RB: 1,0	844.0	20600	V	24.33	3.76	-3.08	25.02	38.45
	044.0	20000	Н	18.12	3.76	-3.08	18.8	38.45

BAND 5 / BW: 10M / QPSK / RB: 1,49

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	829.0	20450 -	V	22.96	3.76	-3.05	23.67	38.45
BAND 5	829.0		Н	18.19	3.76	-3.06	18.89	38.45
BW: 10M	836.5	20525	V	23.39	3.76	-3.08	24.08	38.45
QPSK	830.3	20323	Н	17.7	3.76	-3.08	18.38	38.45
RB: 1,49	844.0	20600	V	22.56	3.77	-3.1	23.23	38.45
	044.0	20000	Н	16.59	3.77	-3.1	17.25	38.45

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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BAND 5 / BW: 10M / 16QAM / RB: 1,0

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	829.0	20450 -	V	23.37	3.75	-3.03	24.1	38.45
BAND 5	829.0		Н	17.97	3.76	-3.03	18.69	38.45
BW: 10M	836.5	20525	V	23.09	3.76	-3.05	23.79	38.45
16QAM	830.5	20323	Н	18.14	3.76	-3.05	18.85	38.45
RB: 1,0	844.0	20600 -	V	24.55	3.76	-3.08	25.23	38.45
	044.0	20000	Н	18.89	3.76	-3.08	19.57	38.45

BAND 5 / BW: 10M / 16QAM / RB: 1,49

EUT			Measurement					
Operation Band	Fundamental Frequency	СН	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
	MHz		V/H	dBm	dB	dB	dBm	dBm
	829.0	20450 -	V	23.38	3.76	-3.06	24.09	38.45
BAND 5	829.0		Н	18.38	3.76	-3.05	19.09	38.45
BW: 10M	836.5	20525	V	23.96	3.76	-3.08	24.65	38.45
16QAM	830.3	20323	Н	18.38	3.76	-3.08	19.06	38.45
RB: 1,49	844.0	20600	V	23.49	3.77	-3.1	24.16	38.45
	044.0	20000	Н	17.44	3.77	-3.1	18.1	38.45

Remark :

(1)

The RBW, VBW of SPA for frequency RBW= 8MHz, VBW= 8MHz

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8. OCCUPIED BANDWIDTH MEASUREMENT

8.1. Standard Applicable:

According to §FCC 2.1049 (99%)

8.2. Test Set-up:

Refer to section 6.2 in this report

8.3. Measurement Procedure:

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 * Signal BW, set % Power = 99%.

NOTE: For the plot of bandwidth measurement, the marker of the 99% bandwidth is diamond-shape

8.4. Measurement Equipment Used:

Refer to section 2.4 in this report

8.5. Measurement Result:

Refer to next pages.

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99% Bandwidth

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	824.20	128	0.247
GSM 850	836.60	190	0.247
	848.80	251	0.245

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	1850.20	512	0.243
GSM 1900	1880.00	661	0.245
	1909.80	810	0.250

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	824.20	128	0.244
GPRS 850	836.60	190	0.243
	848.80	251	0.246

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	1850.20	512	0.242
GPRS 1900	1880.00	661	0.246
	1909.80	810	0.244

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	824.20	128	0.250
EDGE 850	836.60	190	0.249
	848.80	251	0.242

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	1850.20	512	0.248
EDGE 1900	1880.00	661	0.252
	1909.80	810	0.244

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EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
WCDMA II	1852.40	9262	4.2227
	1880.00	9400	4.2045
	1907.60	9538	4.1969

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
WCDMA V	826.40	4132	4.2035
	836.00	4183	4.2262
	846.60	4233	4.1913

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSDPA II	1852.40	9262	4.2148
	1880.00	9400	4.1958
	1907.60	9538	4.2052

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSDPA V	826.40	4132	4.1996
	836.60	4183	4.2324
	846.60	4233	4.1864

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSUPA II	1852.40	9262	4.1834
	1880.00	9400	4.1964
	1907.60	9538	4.1987

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSUPA V	826.40	4132	4.1994
	836.60	4183	4.2321
	846.60	4233	4.1863



EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
1.4MHz BW	1850.7	18607	1.0939
LTE-Band 2 (QPSK	1880.0	18900	1.0908
RB Number: 6 Offset: 0)	1909.3	19193	1.0990

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
1.4MHz BW	1850.7	18607	1.0917
LTE-Band 2 (16QAM	1880.0	18900	1.0936
RB Number: 6 Offset: 0)	1909.3	19193	1.1027

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
3MHz BW	1851.5	18615	2.7106
LTE-Band 2 (QPSK	1880.0	18900	2.7145
RB Number: 15 Offset: 0)	1908.5	19185	2.6982

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
3MHz BW	1851.5	18615	2.7055
LTE-Band 2 (16QAM	1880.0	18900	2.7007
RB Number: 15 Offset: 0)	1908.5	19185	2.6999



EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
5MHz BW	1852.5	18625	4.5265
LTE-Band 2 (QPSK	1880.0	18900	4.5139
RB Number: 25 Offset: 0)	1907.5	19175	4.5344

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
5MHz BW	1852.5	18625	4.5216
LTE-Band 2 (16QAM	1880.0	18900	4.5083
RB Number: 25 Offset: 0)	1907.5	19175	4.5256

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
10MHz BW	1855.0	18650	8.9920
LTE-Band 2 (QPSK	1880.0	18900	8.9767
RB Number: 50 Offset: 0)	1905.0	19150	8.9906

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
10MHz BW	1855.0	18650	8.9750
LTE-Band 2 (16QAM	1880.0	18900	8.9507
RB Number: 50 Offset: 0)	1905.0	19150	8.9911

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EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
15MHz BW	1857.5	18675	13.4789
LTE-Band 2 (QPSK	1880.0	18900	13.4170
RB Number: 75 Offset: 0)	1902.5	19125	13.5229

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
15MHz BW	1857.5	18675	13.4688
LTE-Band 2 (16QAM	1880.0	18900	13.4897
RB Number: 75 Offset: 0)	1902.5	19125	13.5330

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
20MHz BW	1860.0	18700	17.9114
LTE-Band 2 (QPSK	1880.0	18900	17.9151
RB Number: 100 Offset: 0)	1900.0	19100	18.0293

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
20MHz BW	1860.0	18700	17.9546
LTE-Band 2 (16QAM	1880.0	18900	17.8620
RB Number: 100 Offset: 0)	1900.0	19100	18.0014



EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
1.4MHz BW	824.7	20407	1.0886
LTE-Band 5 (QPSK	836.5	20525	1.0980
RB Number: 6 Offset: 0)	848.3	20643	1.0966

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
1.4MHz BW	824.7	20407	1.0901
LTE-Band 5 (16QAM	836.5	20525	1.0964
RB Number: 6 Offset: 0)	848.3	20643	1.1026

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
3MHz BW	825.5	20415	2.7017
LTE-Band 5 (QPSK	836.5	20525	2.7049
RB Number: 15 Offset: 0)	848.3	20643	2.7053

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
3MHz BW	825.5	20415	2.6969
LTE-Band 5 (16QAM	836.5	20525	2.6966
RB Number: 15 Offset: 0)	848.3	20643	2.7041



EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
5MHz BW LTE-Band 5 (QPSK RB Number: 25 Offset: 0)	826.5	20425	4.5080
	836.5	20525	4.5307
	847.5	20625	4.5311

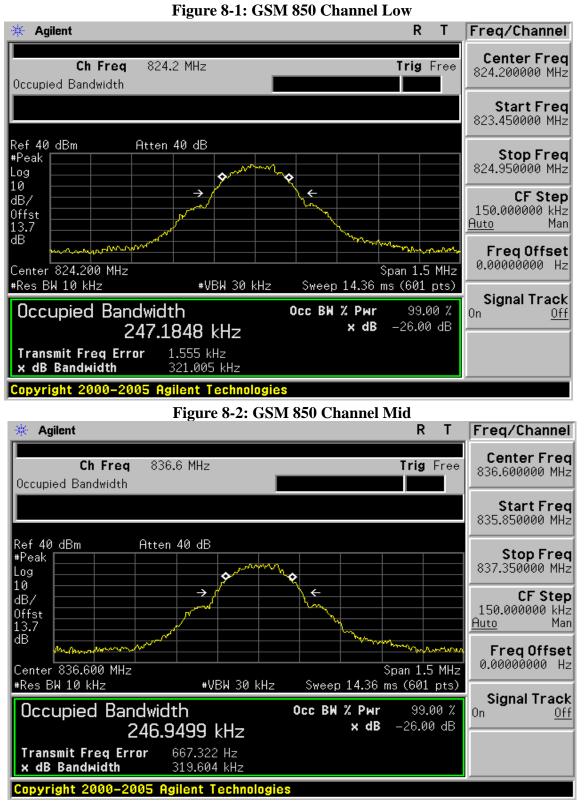
EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
5MHz BW LTE-Band 5 (16QAM RB Number: 25 Offset: 0)	826.5	20425	4.5107
	836.5	20525	4.5272
	847.5	20625	4.5111

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
10MHz BW LTE-Band 5 (QPSK RB Number: 50 Offset: 0)	829.0	20450	8.9716
	836.5	20525	9.0197
	844.0	20600	8.9546

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
10MHz BW LTE-Band 5 (16QAM RB Number: 50 Offset: 0)	829.0	20450	8.9594
	836.5	20525	9.0510
	844.0	20600	8.9498



99% Bandwidth Test Data



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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	



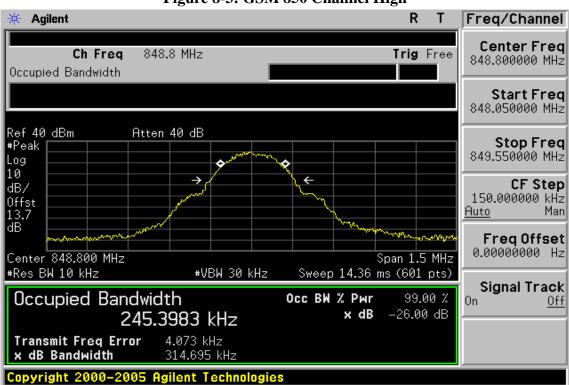
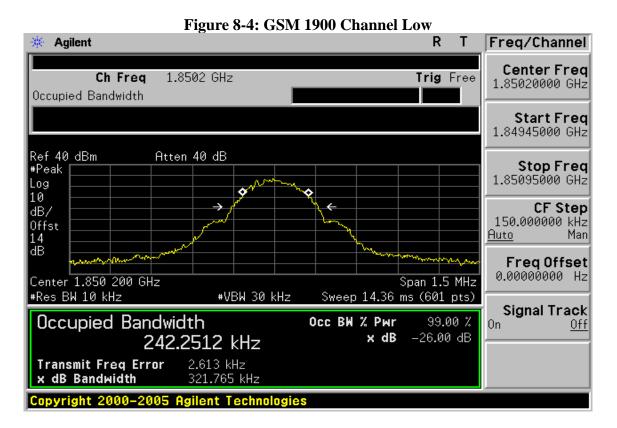


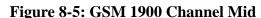
Figure 8-3: GSM 850 Channel High

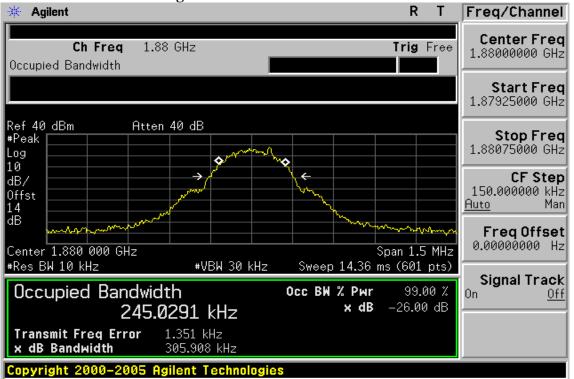


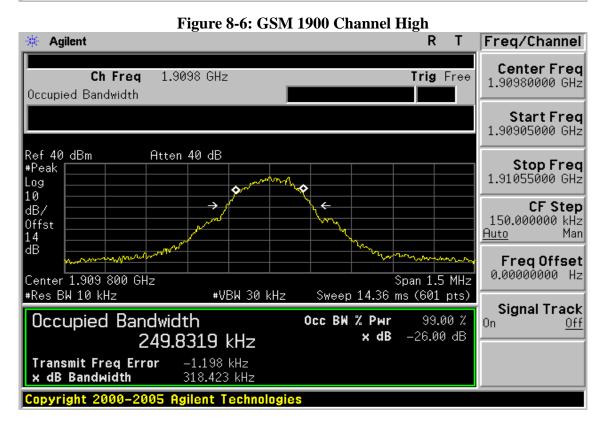
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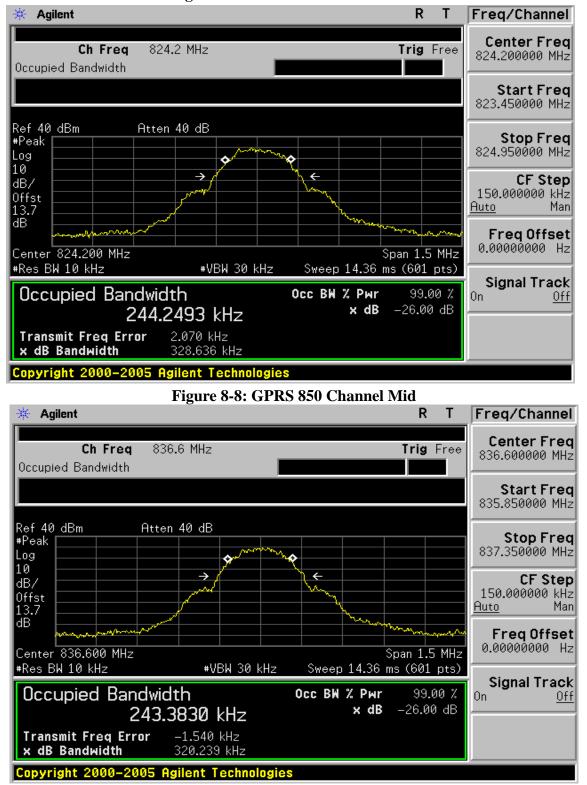




Siness Unleaved and estimate stated the results shown in this test report refer only to the sample(s) rester and such sample(s) are related to so days o 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部份複製。



Figure 8-7: GPRS 850 Channel Low

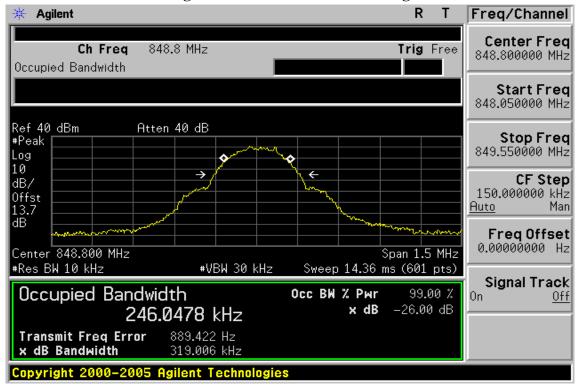


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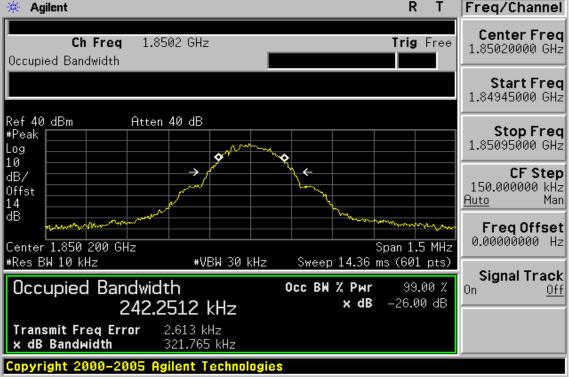
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Figure 8-9: GPRS 850 Channel High



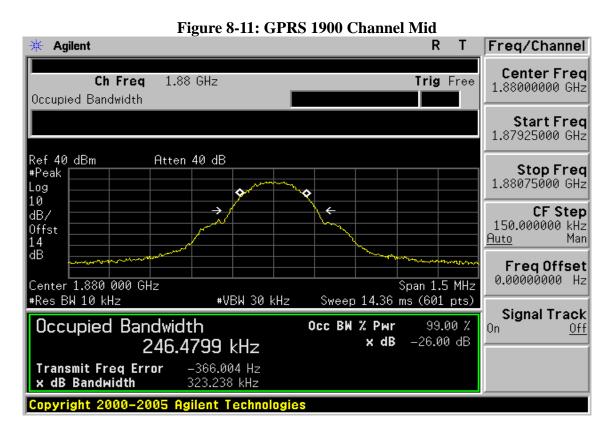


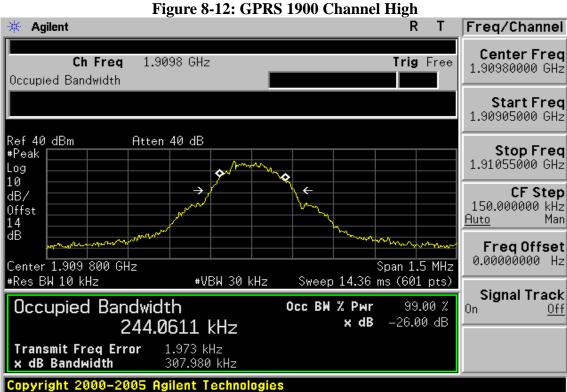


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Figure 8-13: EDGE 850 Channel Low

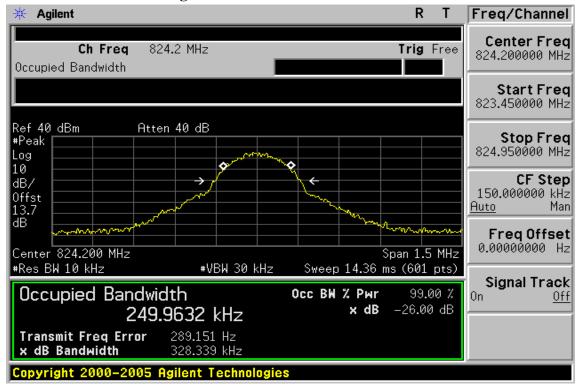
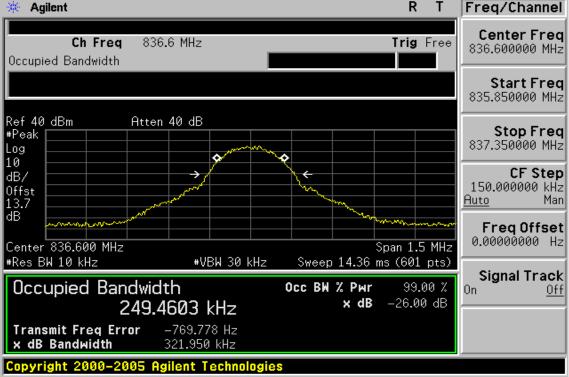


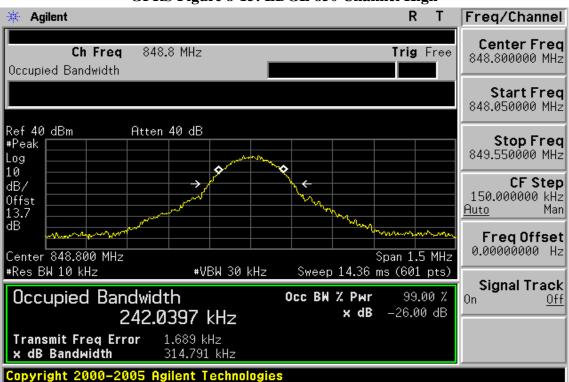
Figure 8-14: EDGE 850 Channel Mid



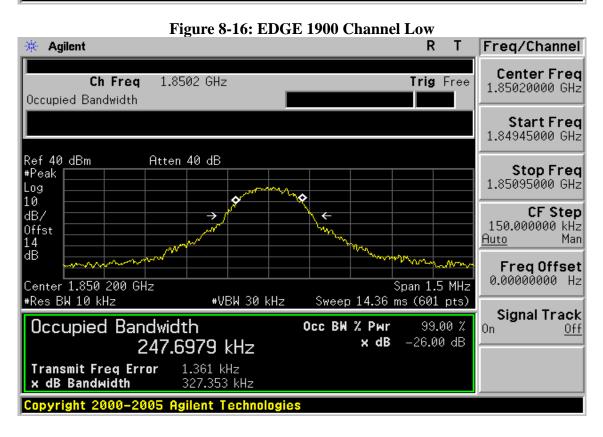
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GPRS Figure 8-15: EDGE 850 Channel High

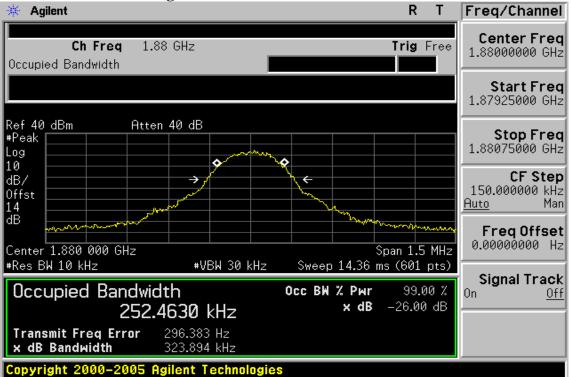


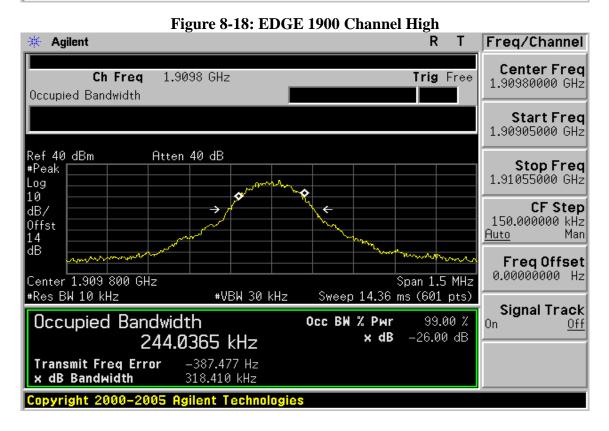
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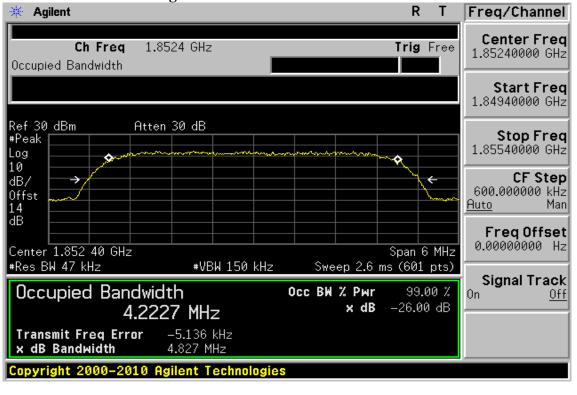


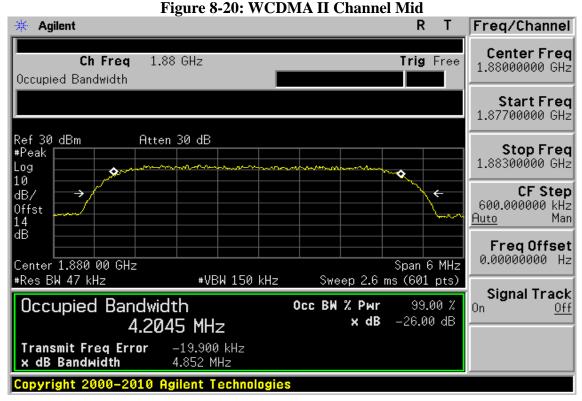


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Figure 8-19: WCDMA II Channel Low





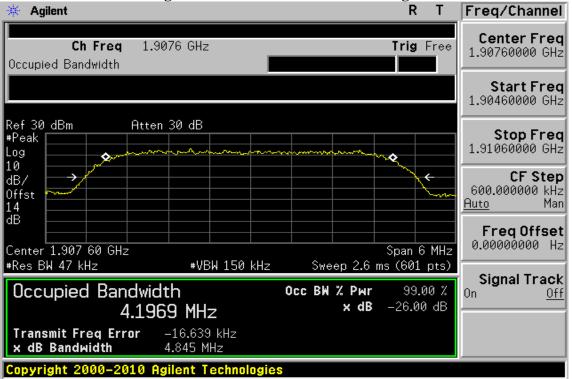
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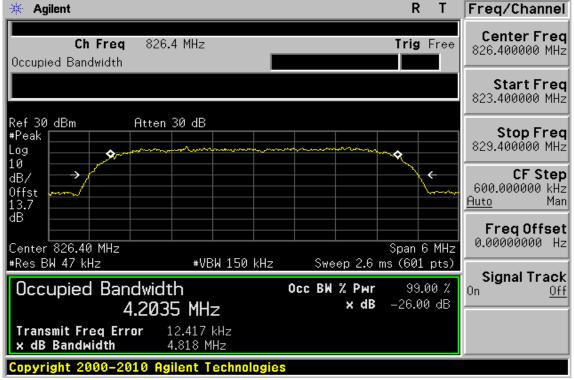








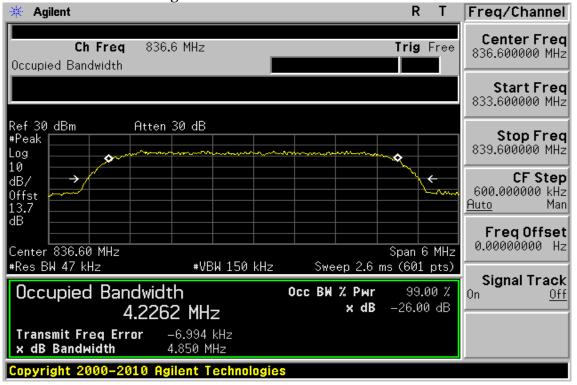


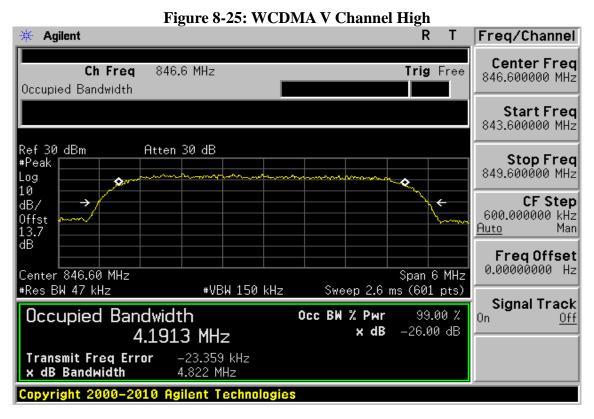


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Figure 8-24: WCDMA V Channel Mid



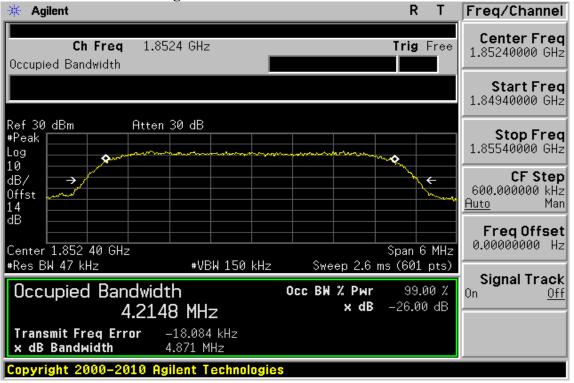


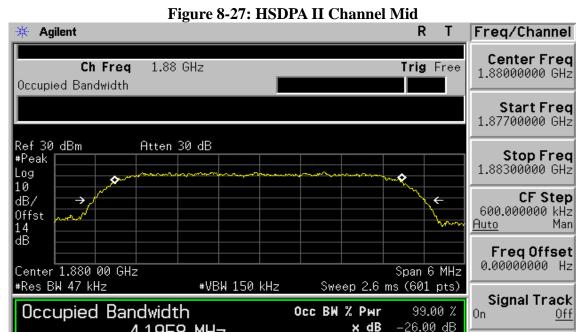
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4.1958 MHz **Transmit Freq Error** –19.405 kHz dB Bandwidth 4.843 MHz vriaht 2000-201 ailent Technologies

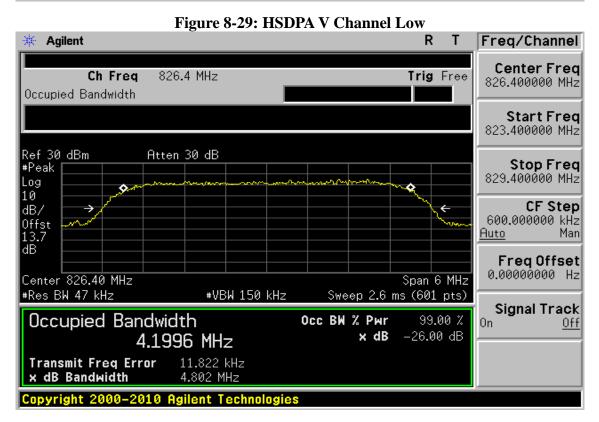
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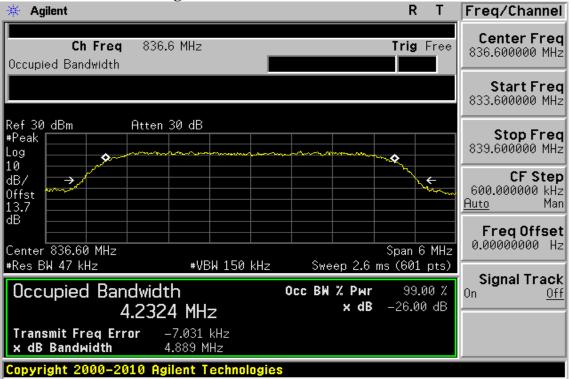


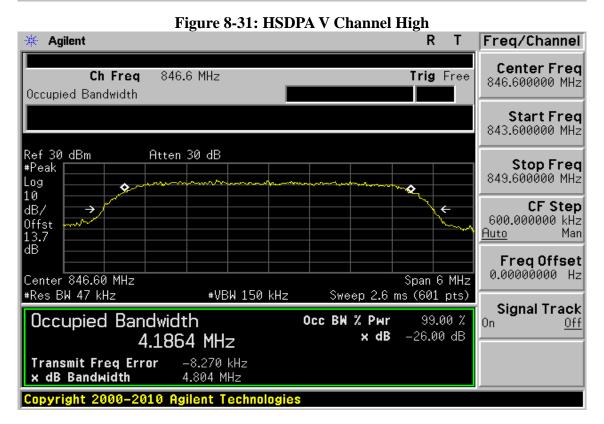


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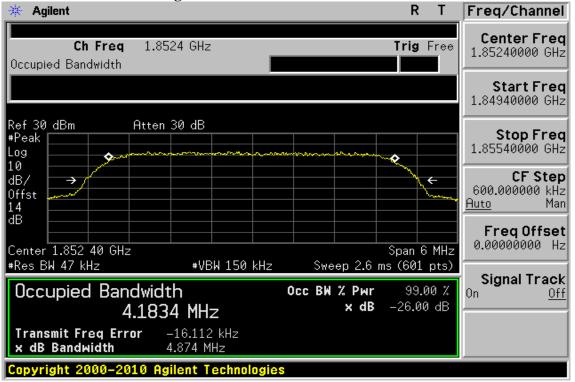


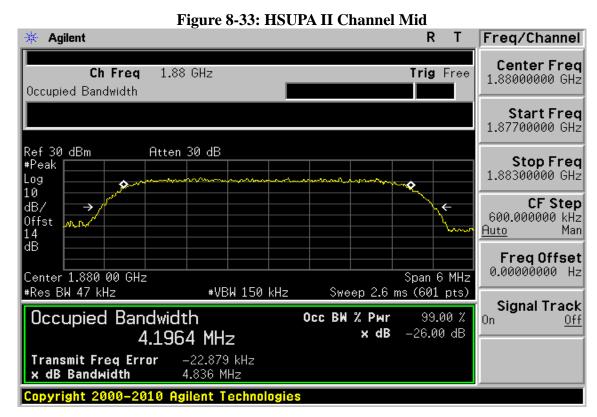


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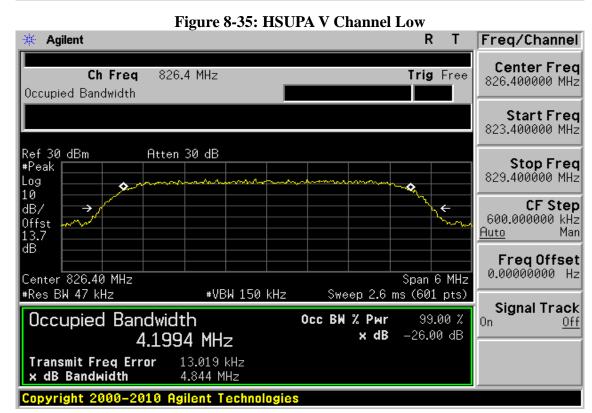
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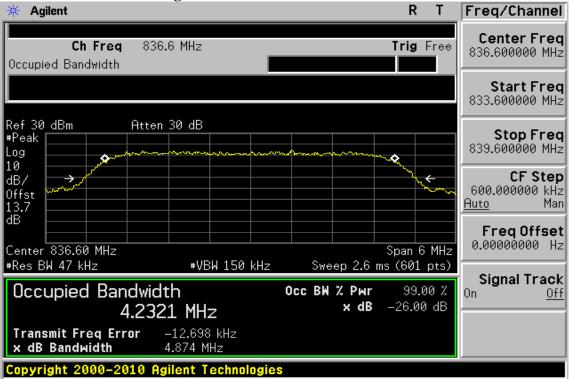


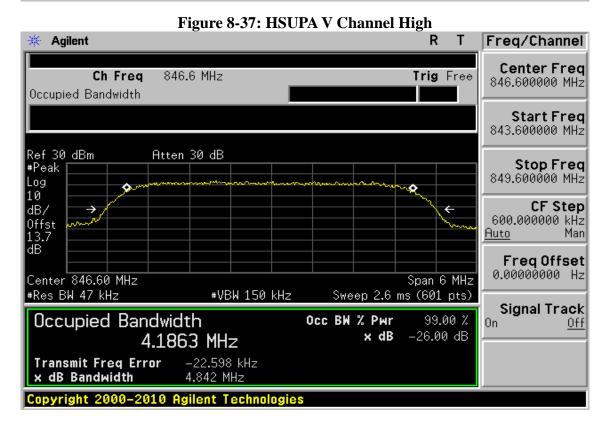


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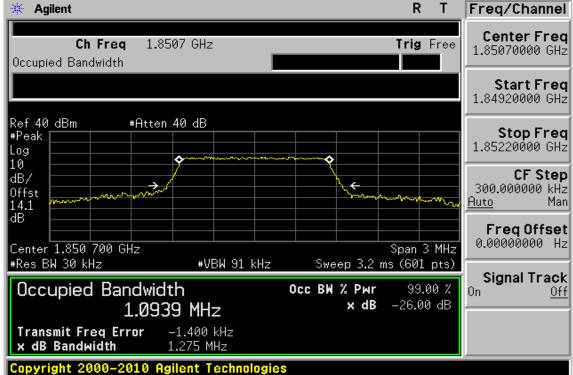
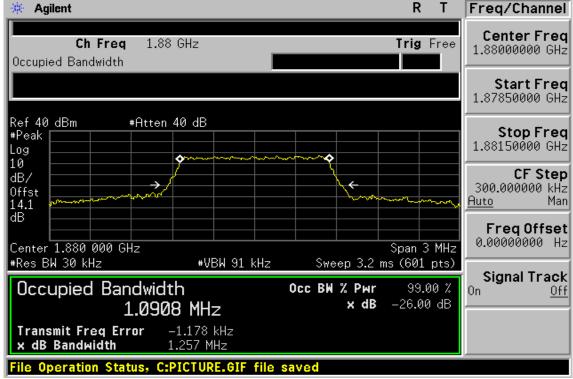


Figure 8-39: 1.4MHz BW LTE-Band 2(QPSK RB Number: 6 Offset: 0) Channel Mid



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Figure 8-40: 1.4MHz BW LTE-Band 2(QPSK RB Number: 6 Offset: 0) Channel High

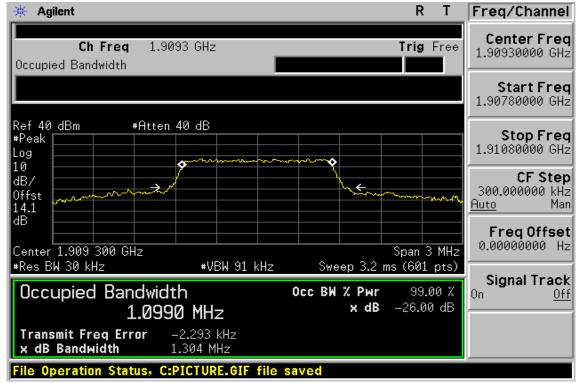
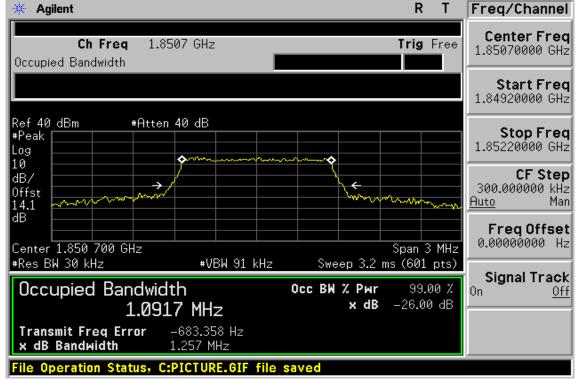


Figure 8-41: 1.4MHz BW LTE-Band 2(16QAM RB Number: 6 Offset: 0) Channel Low



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Figure 8-42: 1.4MHz BW LTE-Band 2(16QAM RB Number: 6 Offset: 0) Channel Mid

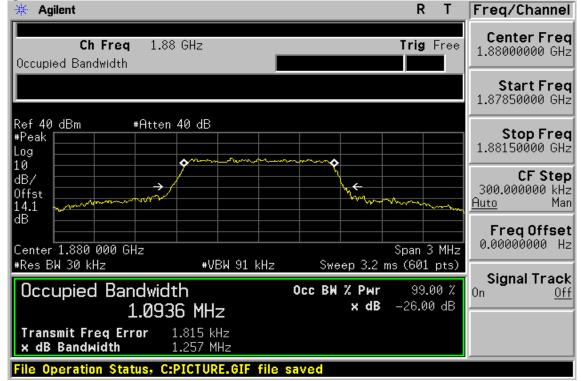
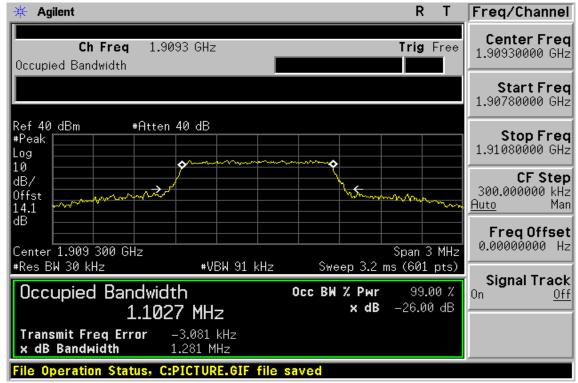


Figure 8-43: 1.4MHz BW LTE-Band 2(16QAM RB Number: 6 Offset: 0) Channel High



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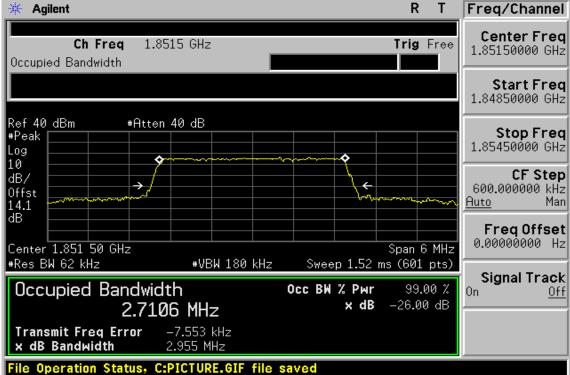
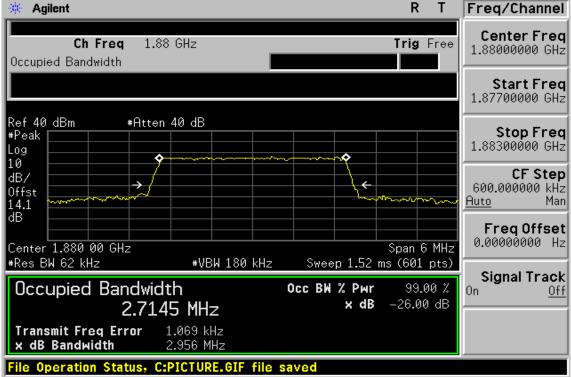


Figure 8-45: 3MHz BW LTE-Band 2(QPSK RB Number: 15 Offset: 0) Channel Mid



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Figure 8-46: 3MHz BW LTE-Band 2(QPSK RB Number: 15 Offset: 0) Channel High

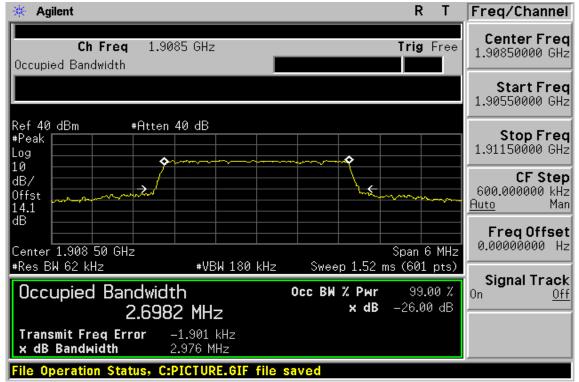
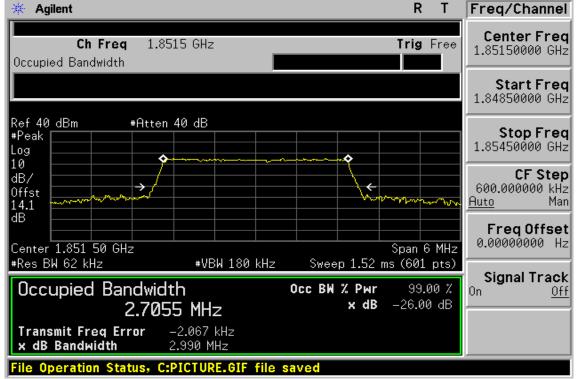


Figure 8-47: 3MHz BW LTE-Band 2(16QAM RB Number: 15 Offset: 0) Channel Low



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Figure 8-48: 3MHz BW LTE-Band 2(16QAM RB Number: 15 Offset: 0) Channel Mid

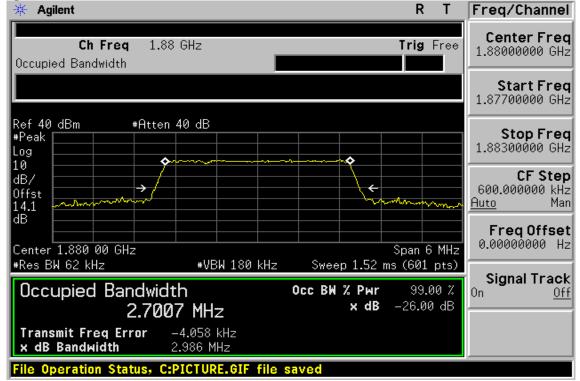
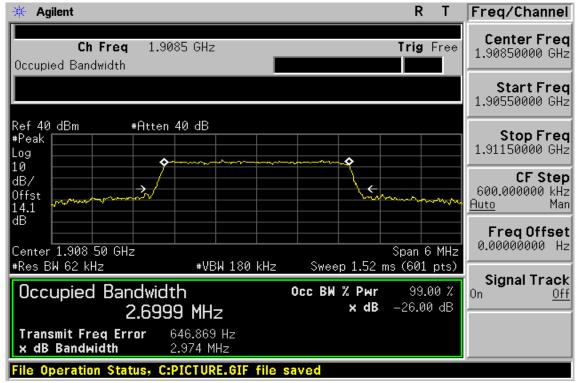


Figure 8-49: 3MHz BW LTE-Band 2(16QAM RB Number: 15 Offset: 0) Channel High



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Figure 8-50: 5MHz BW LTE-Band 2(OPSK RB Number: 25 Offset: 0) Channel Low



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Figure 8-52: 5MHz BW LTE-Band 2(QPSK RB Number: 25 Offset: 0) Channel High



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Figure 8-54: 5MHz BW LTE-Band 2(16QAM RB Number: 25 Offset: 0) Channel Mid

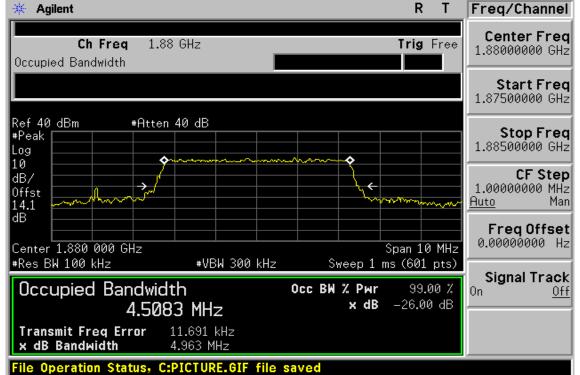
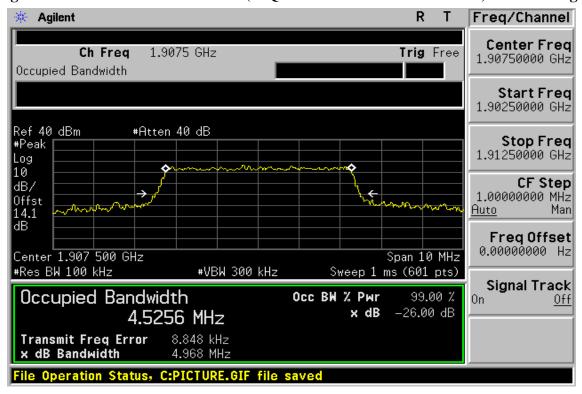


Figure 8-55: 5MHz BW LTE-Band 2(16QAM RB Number: 25 Offset: 0) Channel High

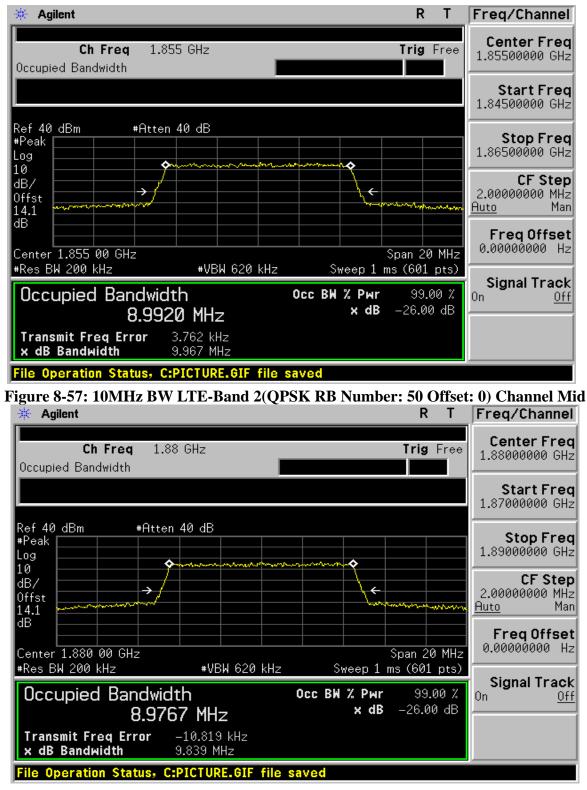


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Figure 8-56: 10MHz BW LTE-Band 2(QPSK RB Number: 50 Offset: 0) Channel Low



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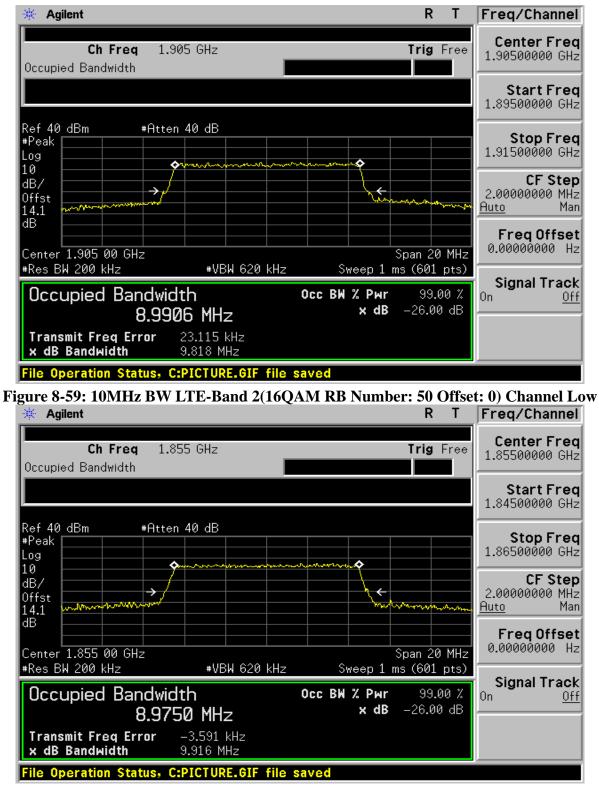
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Figure 8-58: 10MHz BW LTE-Band 2(QPSK RB Number: 50 Offset: 0) Channel High

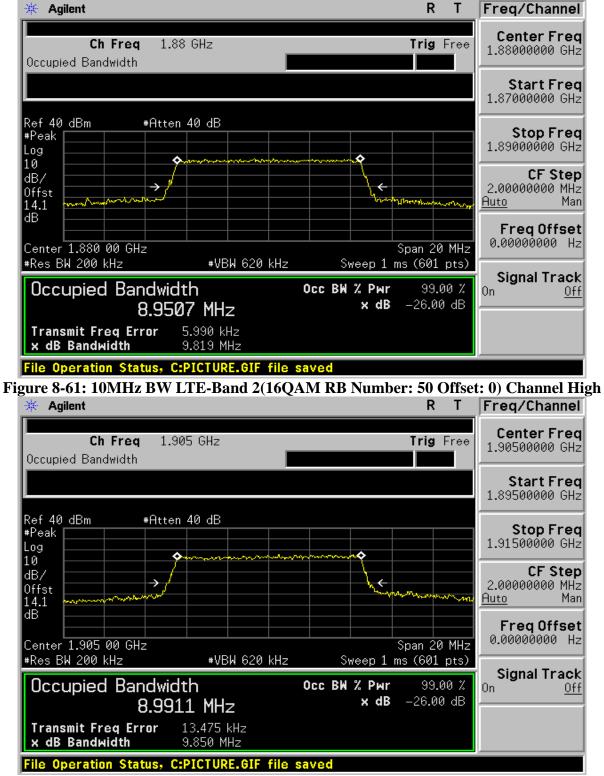


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Figure 8-60: 10MHz BW LTE-Band 2(16QAM RB Number: 50 Offset: 0) Channel Mid

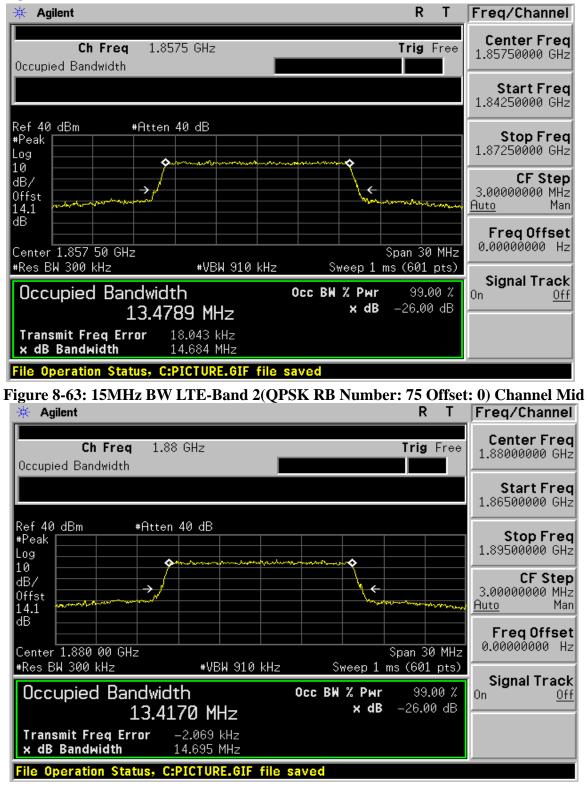


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Figure 8-62: 15MHz BW LTE-Band 2(QPSK RB Number: 75 Offset: 0) Channel Low



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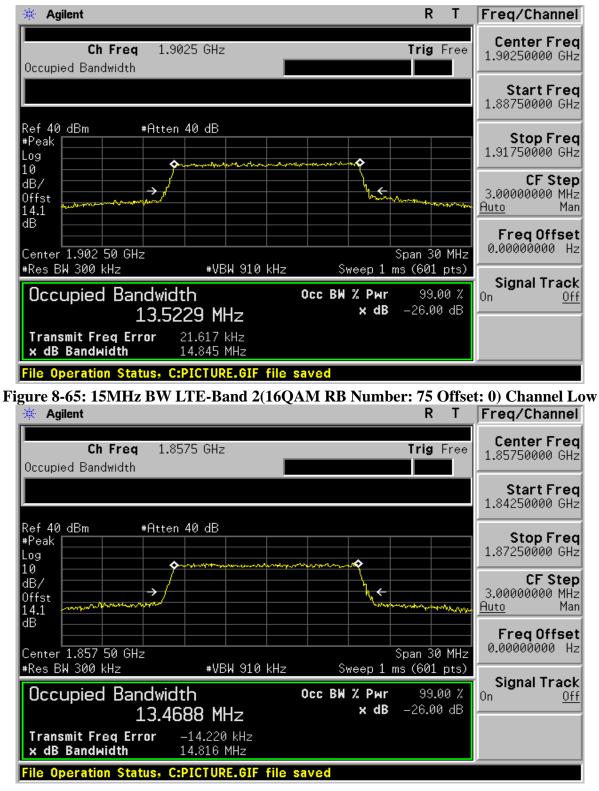
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Figure 8-64: 15MHz BW LTE-Band 2(QPSK RB Number: 75 Offset: 0) Channel High



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Figure 8-66: 15MHz BW LTE-Band 2(16QAM RB Number: 75 Offset: 0) Channel Mid

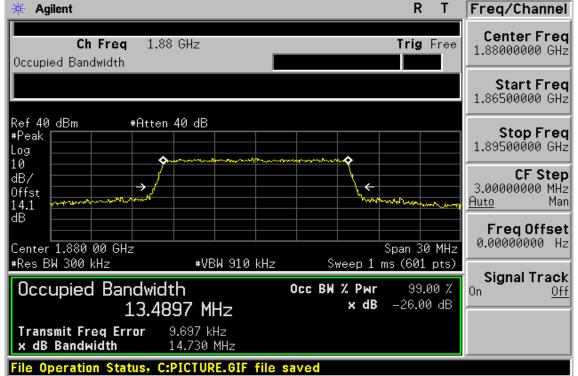
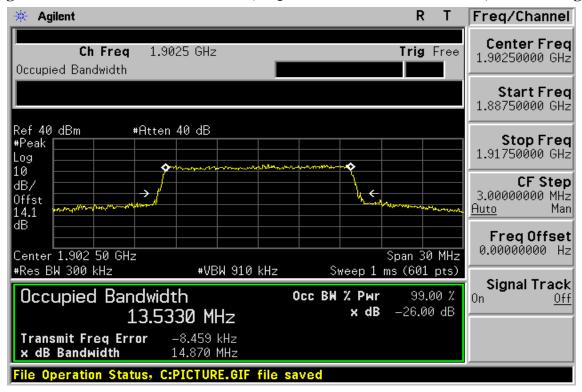


Figure 8-67: 15MHz BW LTE-Band 2(16QAM RB Number: 75 Offset: 0) Channel High

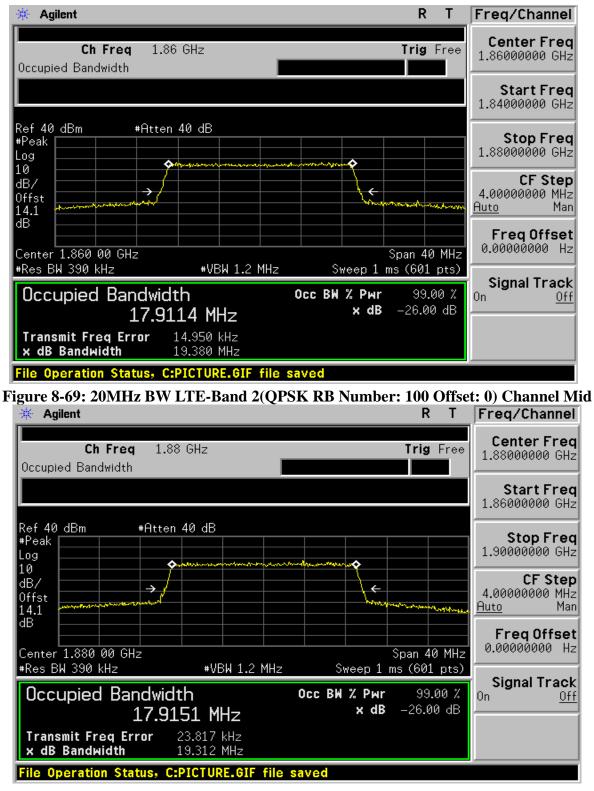


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Figure 8-68: 20MHz BW LTE-Band 2(QPSK RB Number: 100 Offset: 0) Channel Low

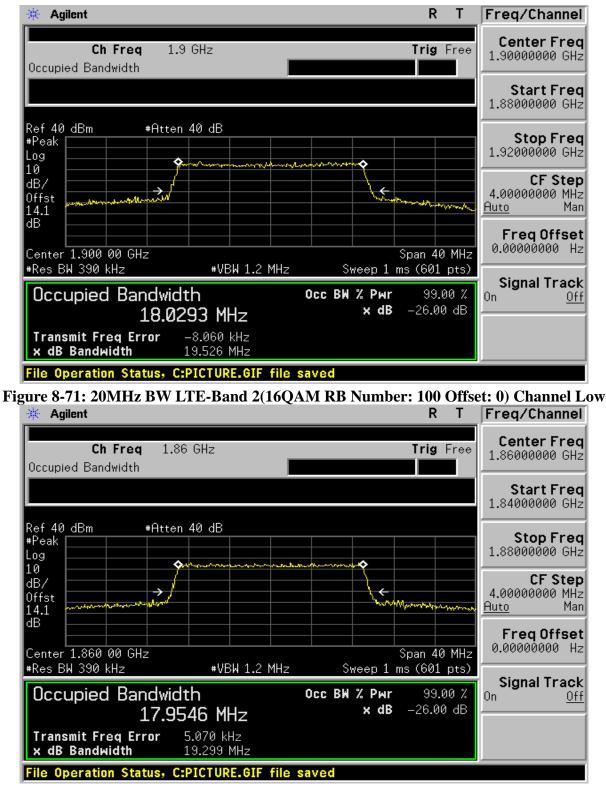


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Figure 8-70: 20MHz BW LTE-Band 2(QPSK RB Number: 100 Offset: 0) Channel High



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Figure 8-72: 20MHz BW LTE-Band 2(16QAM RB Number: 100 Offset: 0) Channel Mid

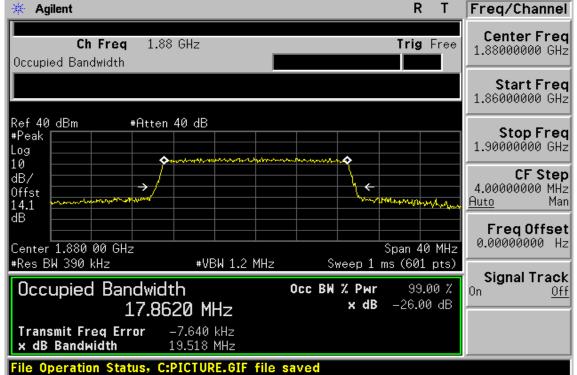
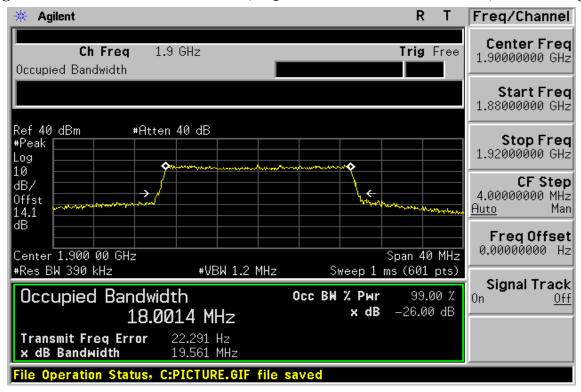


Figure 8-73: 20MHz BW LTE-Band 2(16QAM RB Number: 100 Offset: 0) Channel High



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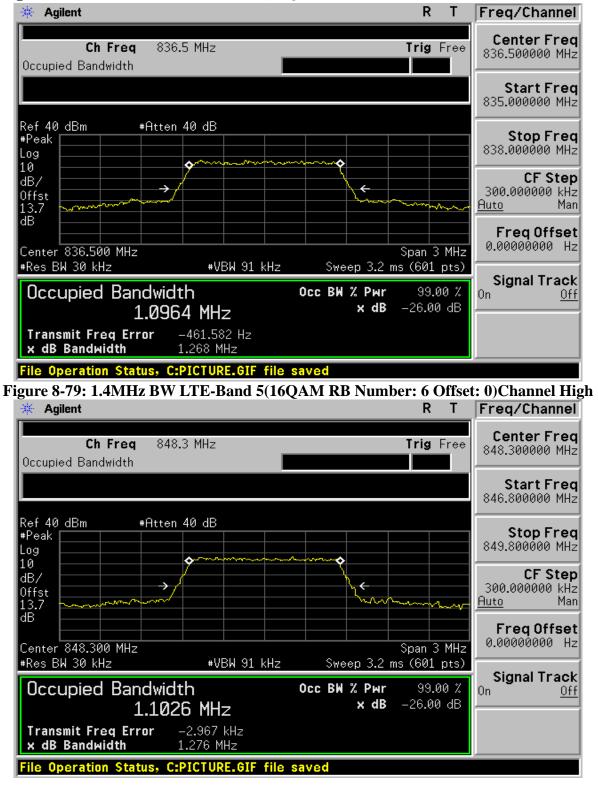


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Figure 8-78: 1.4MHz BW LTE-Band 5(16QAM RB Number: 6 Offset: 0)Channel Mid



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Figure 8-80: 3MHz BW LTE-Band 5(QPSK RB Number: 15 Offset: 0)Channel Low

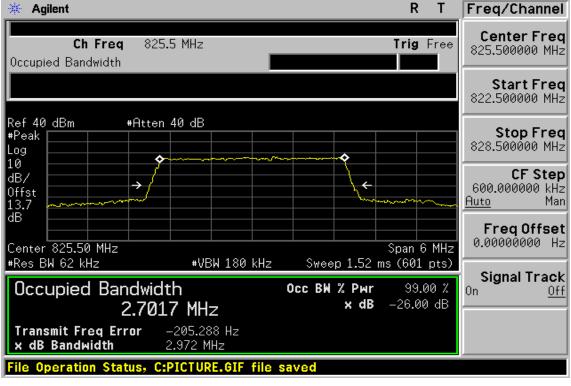
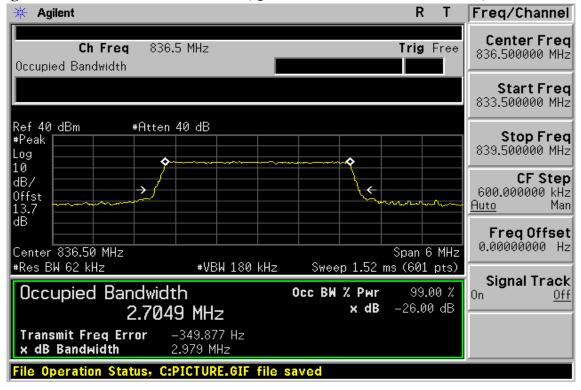


Figure 8-81: 3MHz BW LTE-Band 5(QPSK RB Number: 15 Offset: 0)Channel Mid



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Figure 8-82: 3MHz BW LTE-Band 5(QPSK RB Number: 15 Offset: 0)Channel High

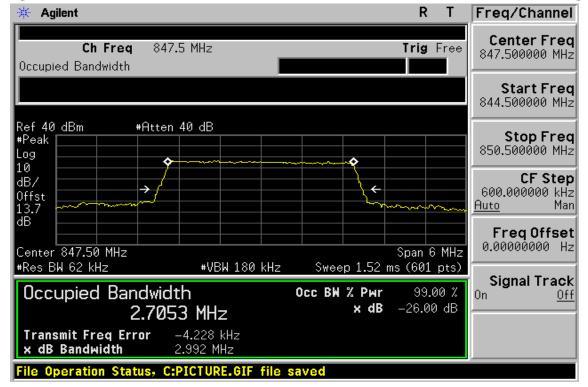
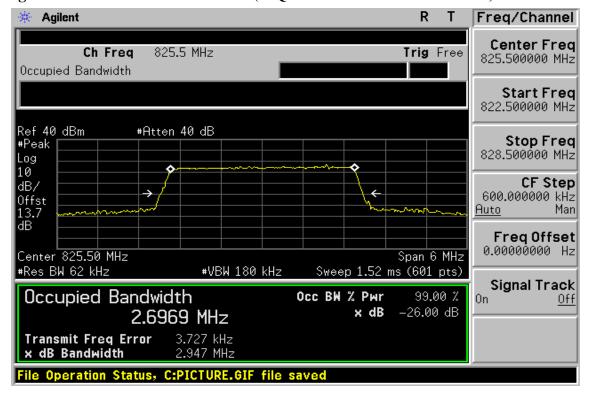


Figure 8-83: 3MHz BW LTE-Band 5(16QAM RB Number: 15 Offset: 0)Channel Low



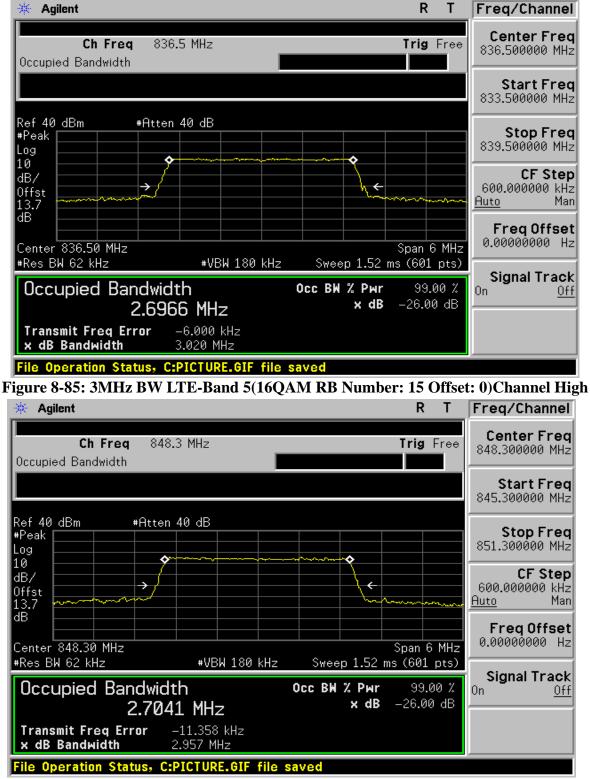
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Figure 8-84: 3MHz BW LTE-Band 5(16QAM RB Number: 15 Offset: 0)Channel Mid



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Figure 8-86: 5MHz BW LTE-Band 5(QPSK RB Number: 25 Offset: 0)Channel Low

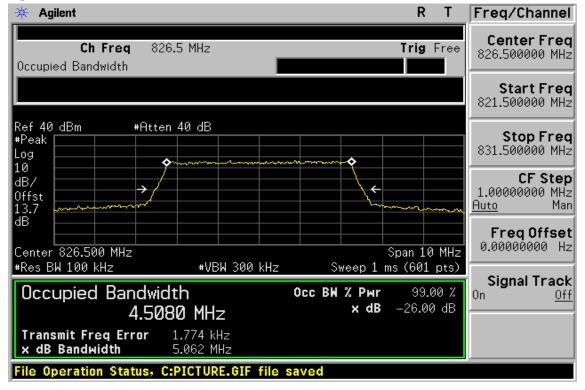
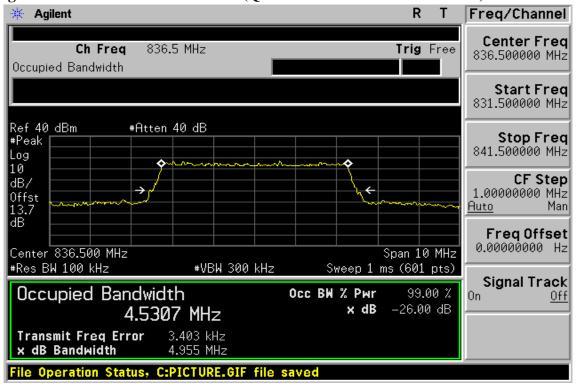


Figure 8-87: 5MHz BW LTE-Band 5(QPSK RB Number: 25 Offset: 0)Channel Mid



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Figure 8-88: 5MHz BW LTE-Band 5(QPSK RB Number: 25 Offset: 0)Channel High

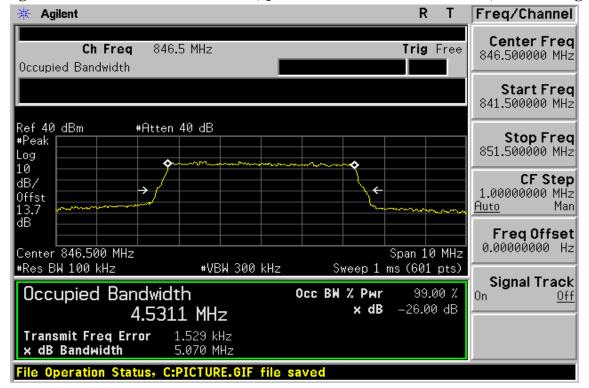
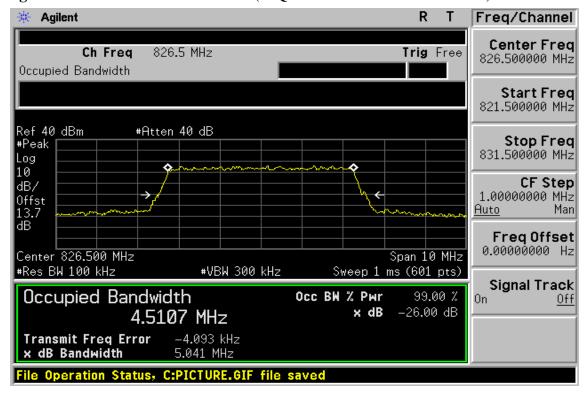


Figure 8-89: 5MHz BW LTE-Band 5(16QAMRB Number: 25 Offset: 0)Channel Low



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Figure 8-90: 5MHz BW LTE-Band 5(16QAMRB Number: 25 Offset: 0)Channel Mid

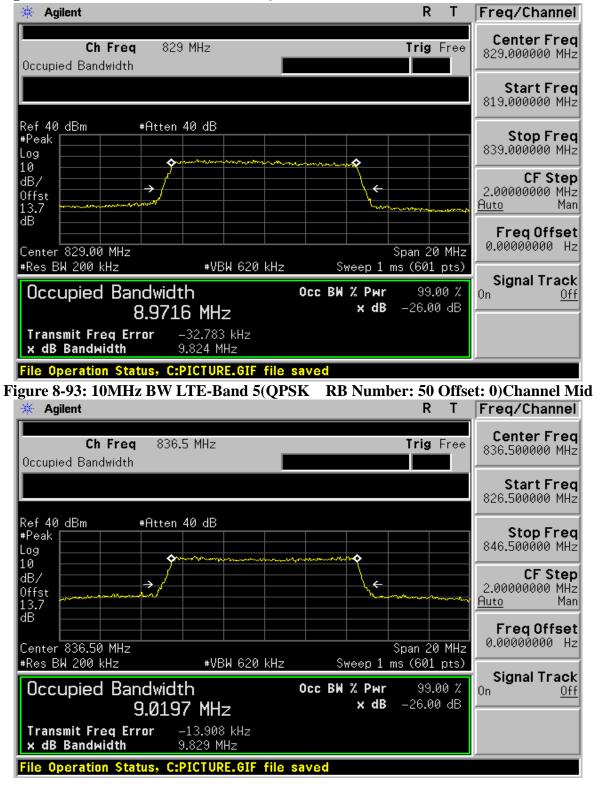


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Figure 8-92: 10MHz BW LTE-Band 5(QPSK RB Number: 50 Offset: 0)Channel Low

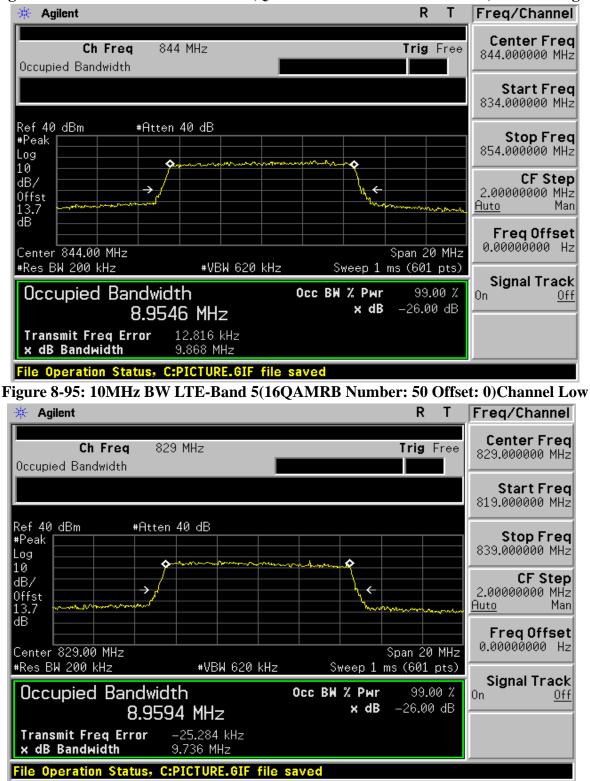


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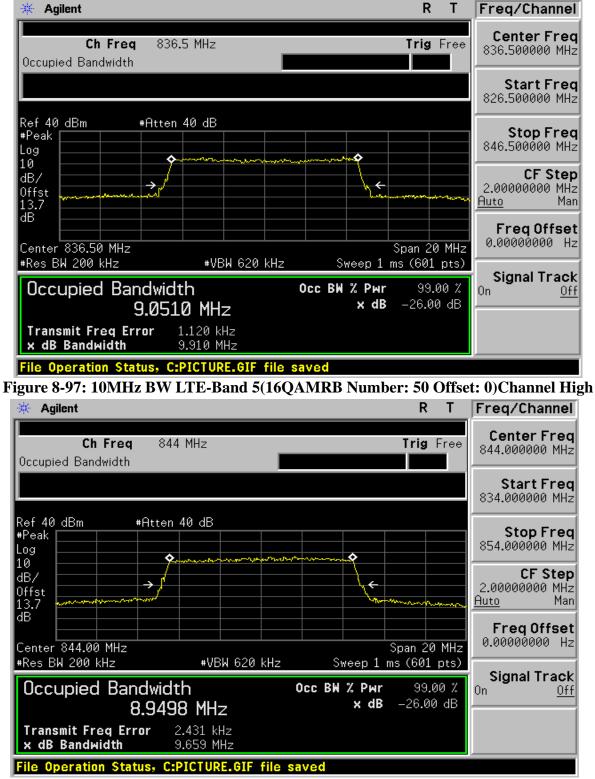
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Figure 8-96: 10MHz BW LTE-Band 5(16QAMRB Number: 50 Offset: 0)Channel Mid



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OUT OF BAND EMISSION AT ANTENNA TERMINALS

9.1. Standard Applicable:

According to FCC §2.1051.

FCC §22.917(a), §24.238(a), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than $43 + 10 \log$ (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm). §27.53 (m) (4) shall not be less than 55 +10log(mean output power in watt) dBc below the mean power output outside a license's frequency block (-25dBm).

100KHz Bandedge:

Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

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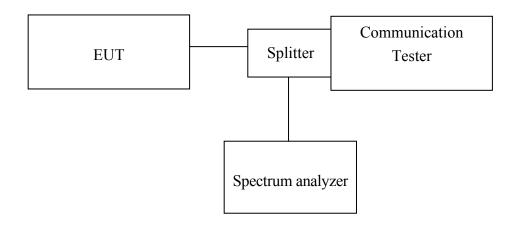
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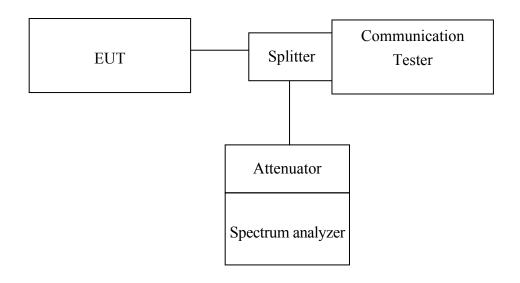
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9.2. Test SET-UP: Out of band emission



Band Edge



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9.3. Measurement Procedure:

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10 th harmonic. Limit = -13dBm.

Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

Conducted Emission:

- 1, To connect Antenna Port of EUT to Spectrum.
- 2、 Set RBW = 1MHz & VBW = 1MHz on Spectrum.
- 3、 Sweep the frequency to determine spurious emission as seen on spectrum from span of 30 to 1G, 1G to 2.5G, 2.5G to 7.5G, 7.5G to 10G, 10G to 15G and 15G to 20GHz
- 4. Via Software, combine 6 spans of frequency range into one plot

9.4. Measurement Equipment Used:

Refer to section 2.4 in this report

9.5. Measurement Result:

Refer to next pages.

NOTE: the occurrence of the spike on the conducted emission is the signal of the fundamental emission.

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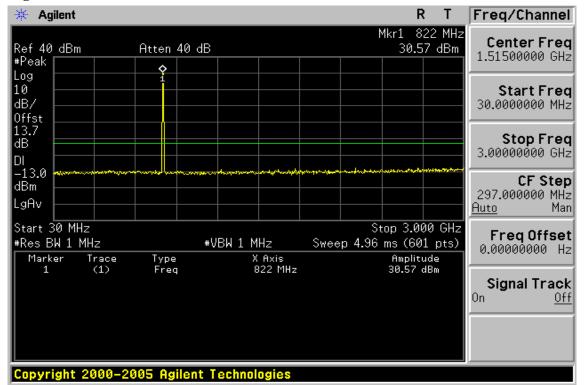
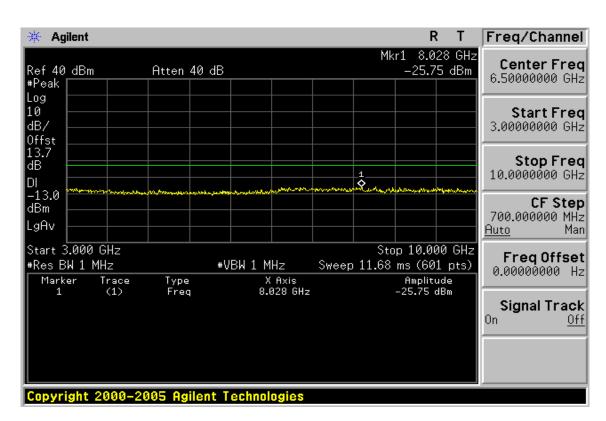


Figure 9-1: Out of Band emission at antenna terminals - GSM 850 Channel Lowest



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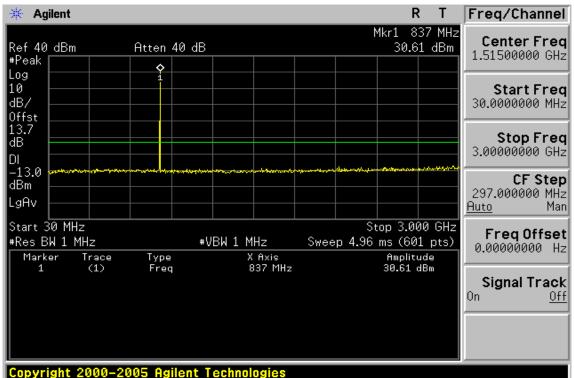
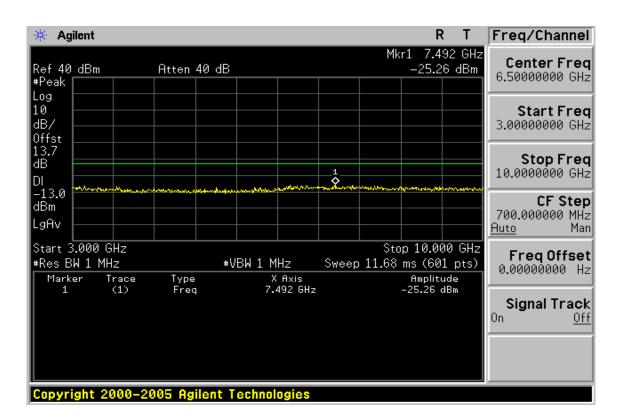


Figure 9-2: Out of Band emission at antenna terminals - GSM 850 Channel Mid



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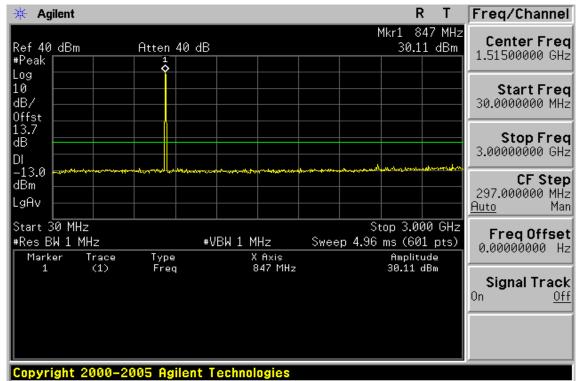
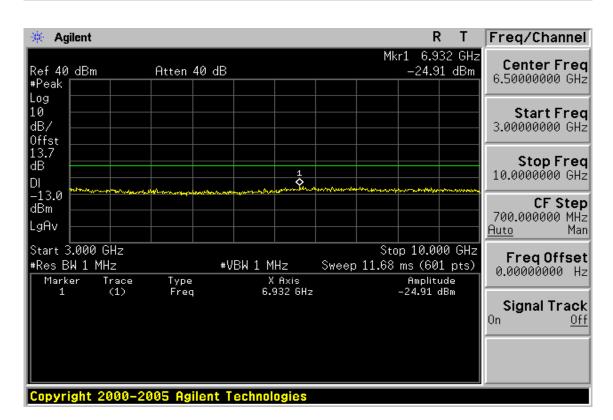


Figure 9-3: Out of Band emission at antenna terminals - GSM 850 Channel Highest



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Out of Band emission at antenna terminals - GSM 850

Fundamental Frequency Operation Mode		:824.2 MHz Enginee :TX Low		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1648.40	Н		-13.00	
	2472.60	Н		-13.00	
	3296.80	Н		-13.00	
	4121.00	Н		-13.00	
	4945.20	Н		-13.00	
	5769.40	Н		-13.00	
	6593.60	Н		-13.00	
	7417.80	Н		-13.00	
	8028.00	S	-25.75	-13.00	12.75
	8242.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:836.6 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.20	Н		-13.00	
	2509.80	Н		-13.00	
	3346.40	Н		-13.00	
	4183.00	Н		-13.00	
	5019.60	Н		-13.00	
	5856.20	Н		-13.00	
	6692.80	Н		-13.00	
	7492.00	S	-25.26	-13.00	12.26
	7529.40	Н		-13.00	
	8366.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Fundamental Frequency Operation Mode		:848.8MHz :TX High	Engin	еег	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1697.60	Н		-13.00	
	2546.40	Н		-13.00	
	3395.20	Н		-13.00	
	4244.00	Н		-13.00	
	5092.80	Н		-13.00	
	5941.60	Н		-13.00	
	6790.40	Н		-13.00	
	6932.00	S	-24.91	-13.00	11.91
	7639.20	Н		-13.00	
	8488.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



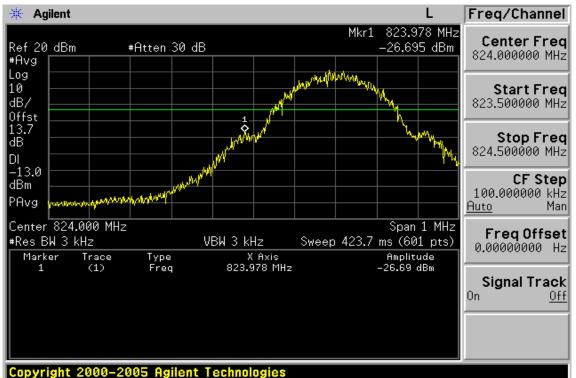
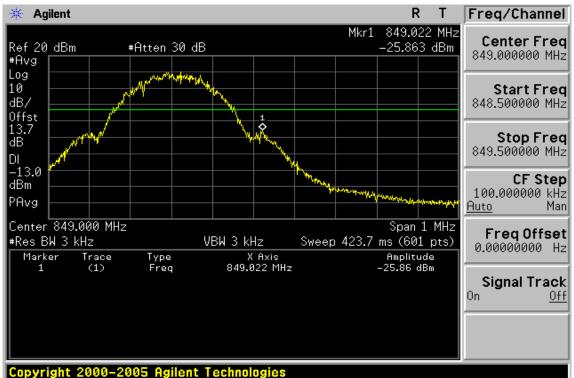


Figure 9-4: Band edge emission at antenna terminals - GSM 850 Channel Lowest

Figure 9-5: Band edge emission at antenna terminals - GSM 850 Channel Highest



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Band edge emission at antenna terminals - GSM 850 Low & High Test Mode **GSM 850** Engineer :Nick Safe Reading Freq. Limit Margin MHz dBm dBm dB -26.69 -13.0013.69 823.978 849.022 -25.86 -13.00 12.86

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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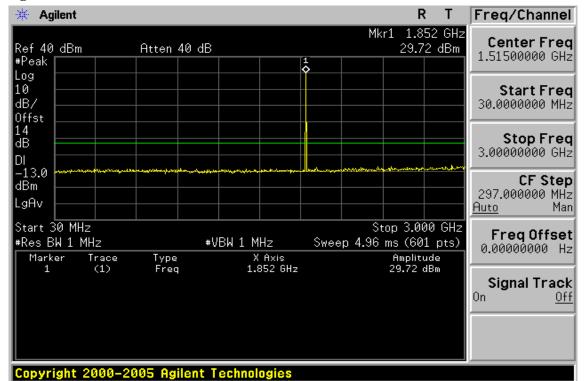
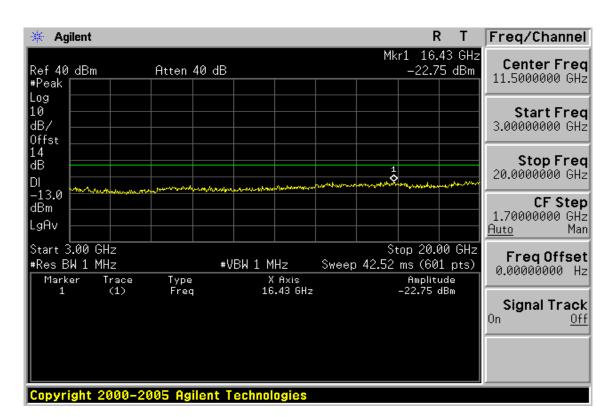


Figure 9-6: Out of Band emission at antenna terminals – GSM 1900 Channel Lowest



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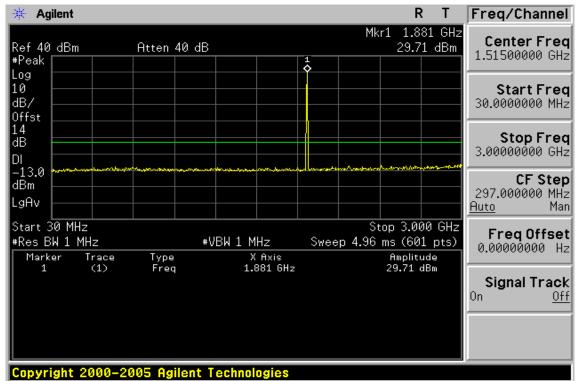
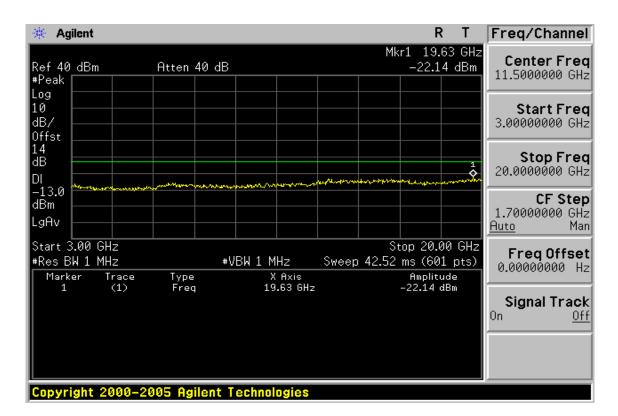


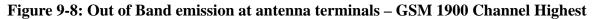
Figure 9-7: Out of Band emission at antenna terminals – GSM 1900 Channel Mid

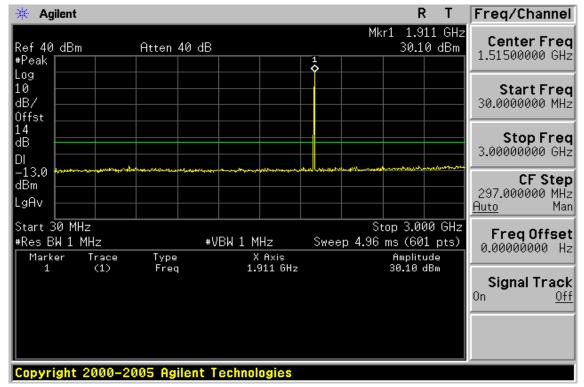


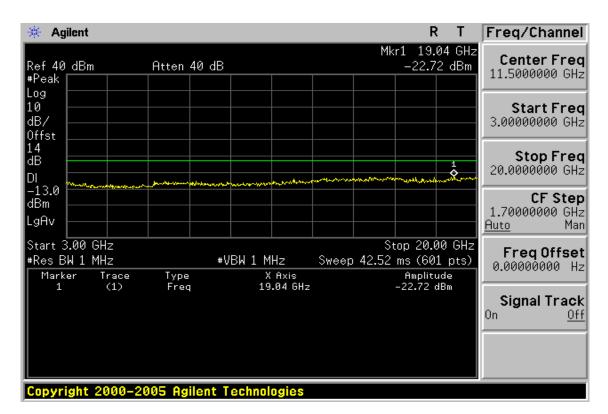
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Out of Band emission at antenna terminals - GSM 1900

Fundamental Frequency Operation Mode		:1850.2 MHz Engl :TX Low		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3700.40	Н		-13.00	
	5550.60	Н		-13.00	
	7400.80	Н		-13.00	
	9251.00	Н		-13.00	
	11101.20	Н		-13.00	
	12951.40	Н		-13.00	
	14801.60	Н		-13.00	
	16430.00	S	-22.75	-13.00	9.75
	16651.80	Н		-13.00	
	18502.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz Engin :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	
	19630.00	S	-22.14	-13.00	9.14

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Fundamental Frequency Operation Mode		:1909.8 MHz :TX High	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3819.60	Н		-13.00	
	5729.40	Н		-13.00	
	7639.20	Н		-13.00	
	9549.00	Н		-13.00	
	11458.80	Н		-13.00	
	13368.60	Н		-13.00	
	15278.40	Н		-13.00	
	17188.20	Н		-13.00	
	19040.00	S	-22.72	-13.00	9.72
	19098.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



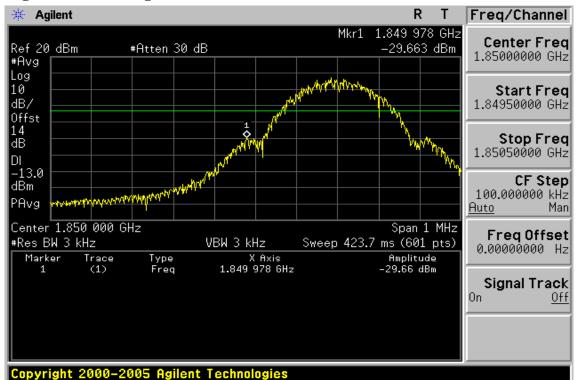


Figure 9-9: Band edge emission at antenna terminals - GSM 1900 Channel Lowest

Figure 9-10: Band edge emission at antenna terminals - GSM 1900 Channel Highest



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Band edge emission at antenna terminals - GSM 1900 Low & High Test Mode **GSM 1900** Engineer :Nick Safe Reading Freq. Limit Margin MHz dBm dBm dB -29.66 -13.0016.66 1849.978

-27.83

-13.00

14.83

1910.019

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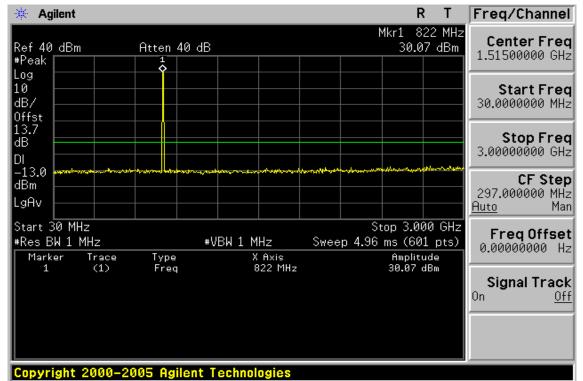
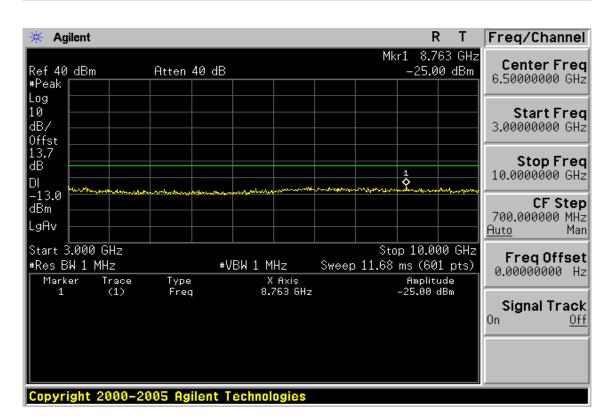


Figure 9-11: Out of Band emission at antenna terminals - GPRS850 Channel Lowest



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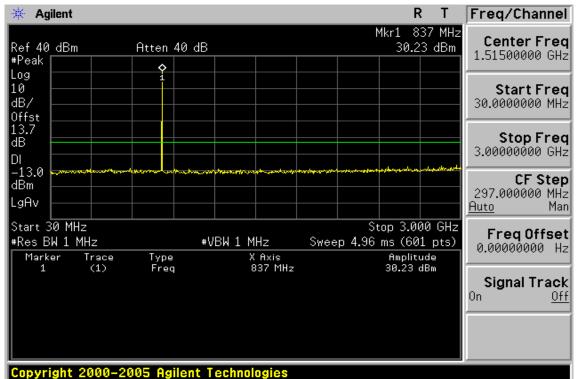
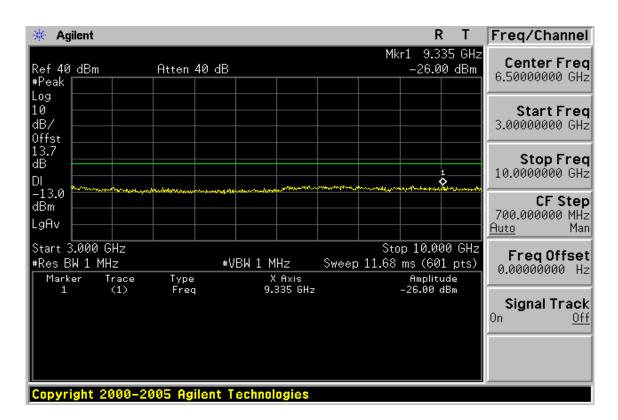
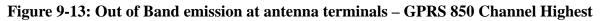
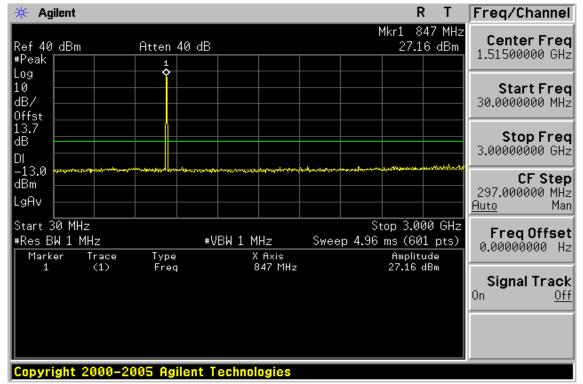


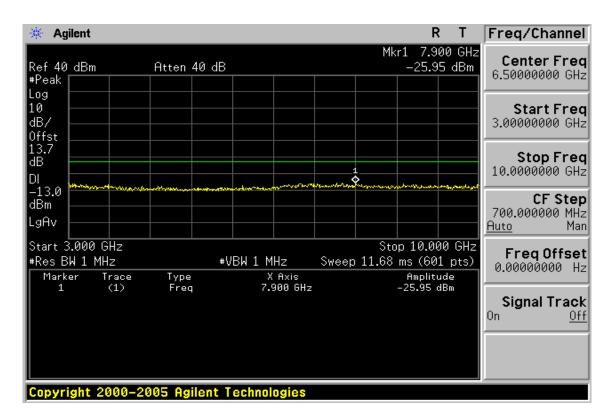
Figure 9-12: Out of Band emission at antenna terminals - GPRS 850 Channel Mid



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Out of Band emission at antenna terminals - GPRS 850

:824.2 MHz :TX Low	e		:Nick
	Reading dBm	Limit dBm	Safe Margin dB
S		-13.00	
		-13.00	
		-13.00	
0 Н		-13.00	
0 S	-25	-13.00	12.00
	:TX Low Note F/H/E/S S S S S S S S S S S S S S S S S S S	Note Reading b) F/H/E/S dBm c) S 00 S 00 H 00 H	$\begin{array}{c cccccccccccc} :TX \ Low \\ \hline \\ & Note & Reading & Limit \\ dBm & dBm \\ \hline \\ & Bm \\ \hline $

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:836.6 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.20	Н		-13.00	
	2509.80	Н		-13.00	
	3346.40	Н		-13.00	
	4183.00	Н		-13.00	
	5019.60	Н		-13.00	
	5856.20	Н		-13.00	
	6692.80	Н		-13.00	
	7529.40	Н		-13.00	
	8366.00	Н		-13.00	
	9335.00	S	-26	-13.00	13.00

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Fundamental Frequency Operation Mode		:848.8MHz Engineer :TX High		eer	:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
	<30	S		-13.00		
	30-1000	S S		-13.00		
	1697.60	Н		-13.00		
	2546.40	Н		-13.00		
	3395.20	Н		-13.00		
	4244.00	Н		-13.00		
	5092.80	Н		-13.00		
	5941.60	Н		-13.00		
	6790.40	Н		-13.00		
	7639.20	Н		-13.00		
	7900.00	S	-25.95	-13.00	12.95	
	8488.00	Н		-13.00		

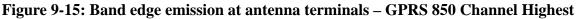
"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

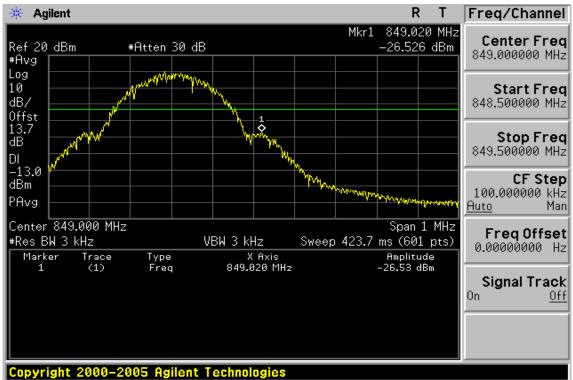
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Figure 9-14: Band edge emission at antenna terminals - GPRS 850 Channel Lowest





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Test Mode	GPRS 850	GPRS 850 Engineer		11	:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	823.966 849.020	-26.96 -26.53	-13.00 -13.00	13.96 13.53	

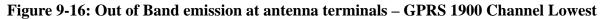
Band edge emission at antenna terminals - GPRS 850 Low & High

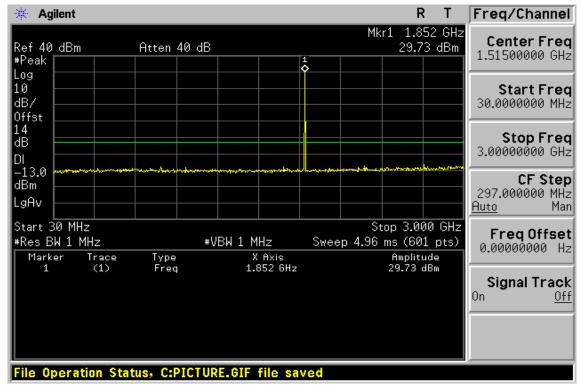
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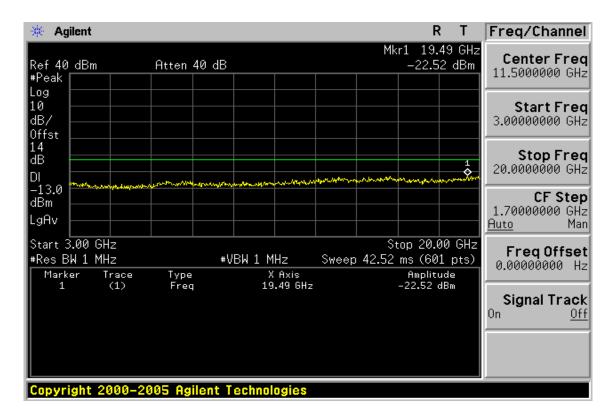
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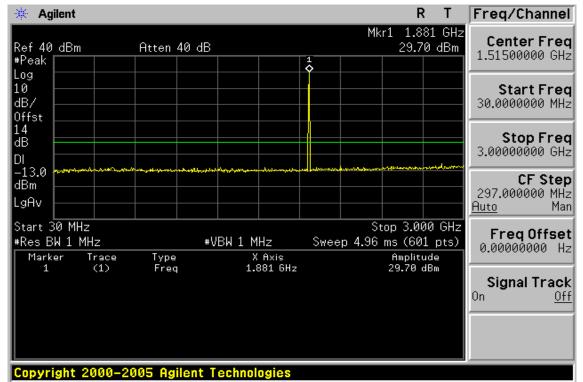
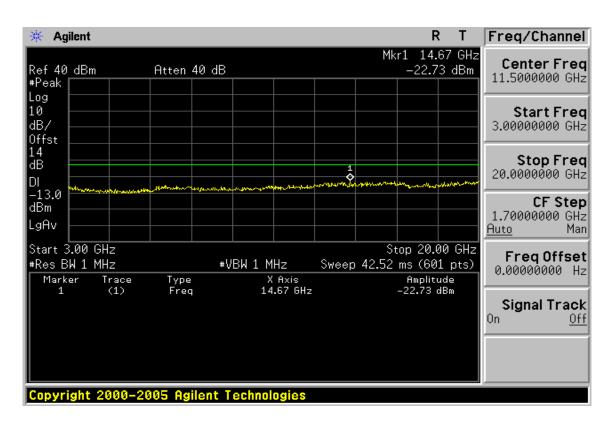
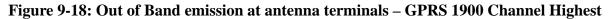


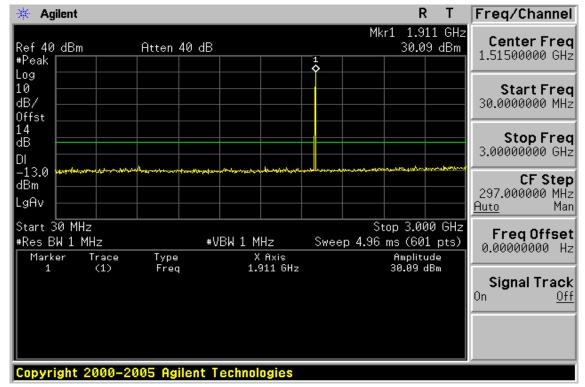
Figure 9-17: Out of Band emission at antenna terminals – GPRS 1900 Channel Mid

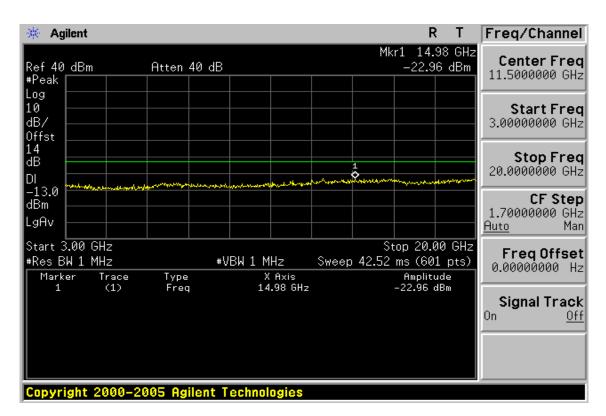


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Out of Band emission at antenna terminals - GPRS 1900

Fundamental Frequency Operation Mode		:1850.2 MHz Engineer :TX Low		:Nick	
Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
<30	S		-13.00		
30-1000	S		-13.00		
3700.40	Н		-13.00		
5550.60	Н		-13.00		
7400.80	Н		-13.00		
9251.00	Н		-13.00		
1101.20	Н		-13.00		
2951.40	Н		-13.00		
4801.60	Н		-13.00		
6651.80	Н		-13.00		
8502.00	Н		-13.00		
9490.00	S	-22.52	-13.00	9.52	
	Freq. (MHz) <30 30-1000 3700.40 5550.60 7400.80 9251.00 1101.20 2951.40 4801.60 6651.80 8502.00	Freq. Note (MHz) F/H/E/S <30	Freq. Note Reading (MHz) F/H/E/S dBm <30	Freq. Note Reading Limit (MHz) F/H/E/S dBm dBm <30	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	14670.00	S	-22.73	-13.00	9.73
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 164 of 471

Fundamental Frequency Operation Mode		:1909.8 MHz :TX High	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3819.60	Н		-13.00	
	5729.40	Н		-13.00	
	7639.20	Н		-13.00	
	9549.00	Н		-13.00	
	11458.80	Н		-13.00	
	13368.60	Н		-13.00	
	14980.00	S	-22.96	-13.00	9.96
	15278.40	Н		-13.00	
	17188.20	Н		-13.00	
	19098.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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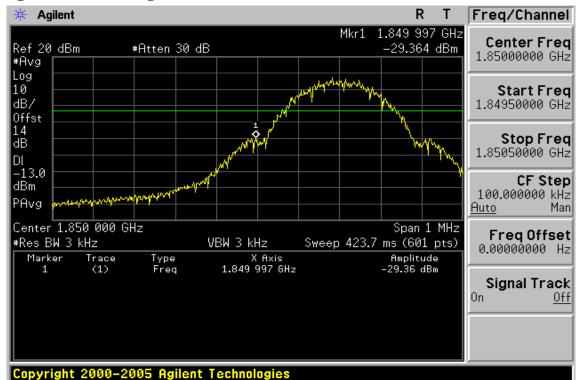
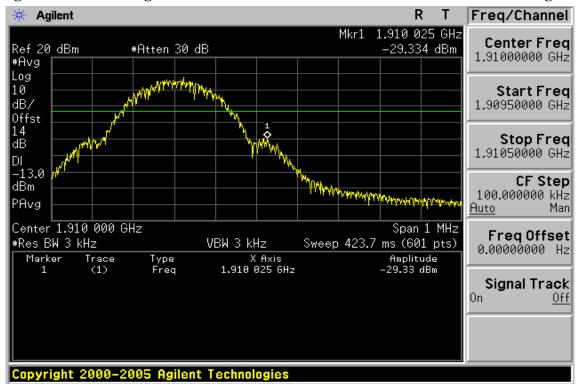


Figure 9-19: Band edge emission at antenna terminals – GPRS 1900 Channel Lowest

Figure 9-20: Band edge emission at antenna terminals - GPRS 1900 Channel Highest



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Test Mode

chilission a	GPRS 1900		Engineer		
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	1849.997 1910.025	-29.36 -29.33	-13.00 -13.00	16.36 16.33	

Band edge emission at antenna terminals - GPRS 1900 Low & High

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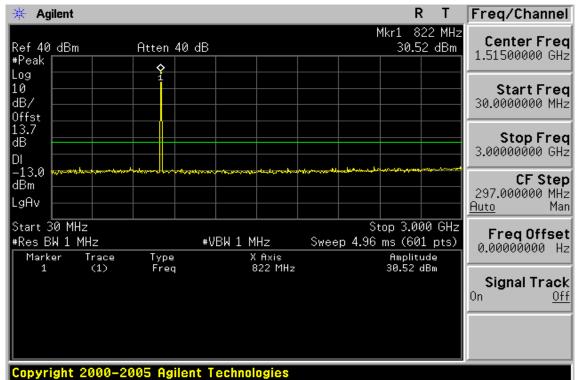
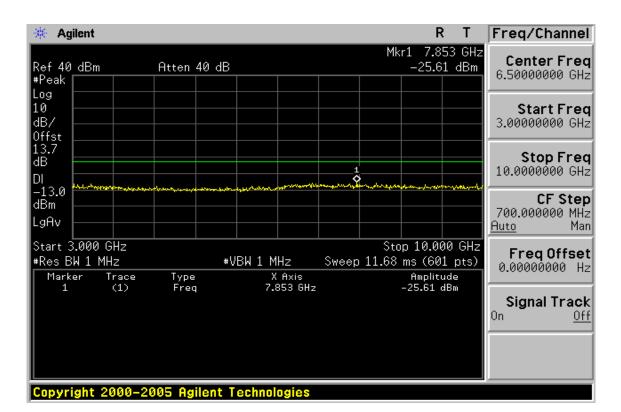


Figure 9-21: Out of Band emission at antenna terminals - EDGE 850 Channel Lowest



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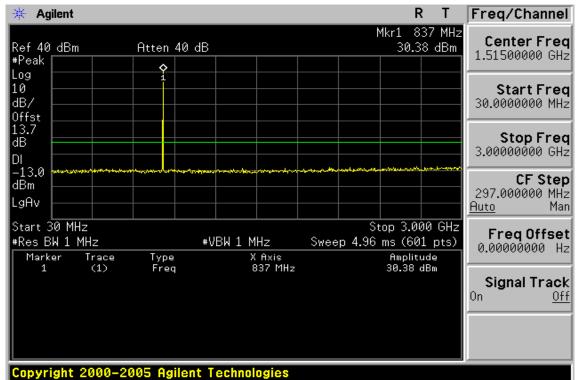
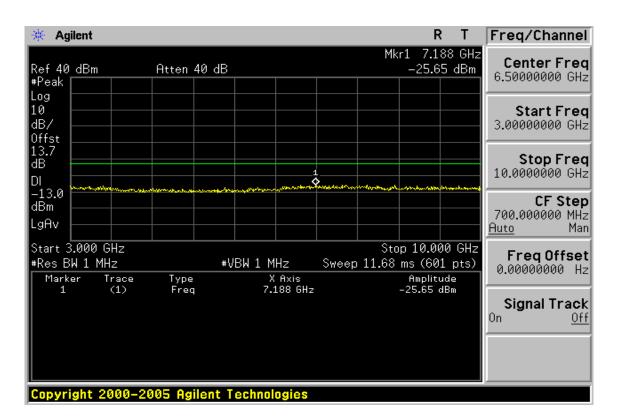
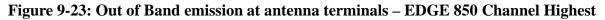


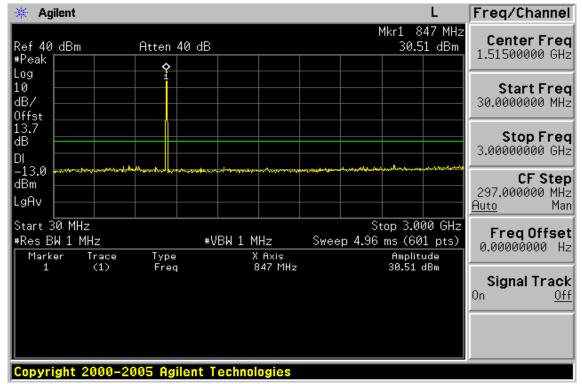
Figure 9-22: Out of Band emission at antenna terminals - EDGE 850 Channel Mid

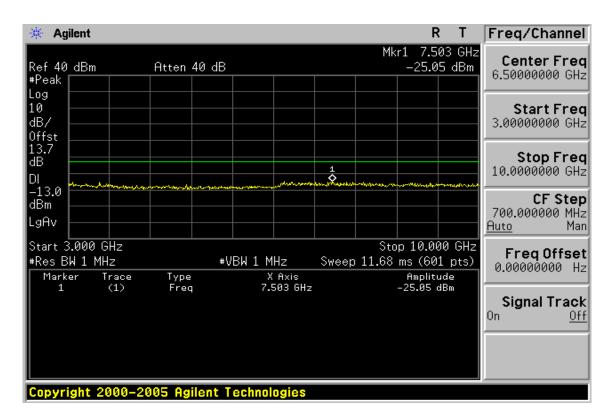


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Out of Band emission at antenna terminals - EDGE 850

Fundamental Frequency Operation Mode		:824.2 MHz Engineer :TX Low		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1648.40	Н		-13.00	
	2472.60	Н		-13.00	
	3296.80	Н		-13.00	
	4121.00	Н		-13.00	
	4945.20	Н		-13.00	
	5769.40	Н		-13.00	
	6593.60	Н		-13.00	
	7417.80	Н		-13.00	
	7853.00	S	-25.61	-13.00	12.61
	8242.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:836.6 MHz :TX Mid	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.20	Н		-13.00	
	2509.80	Н		-13.00	
	3346.40	Н		-13.00	
	4183.00	Н		-13.00	
	5019.60	Н		-13.00	
	6692.80	Н		-13.00	
	7188.00	S	-25.65	-13.00	12.65
	7529.40	Н		-13.00	
	8366.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 172 of 471

Fundamental Frequency Operation Mode		:848.8MHz Engineer :TX High		eer	:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
	<30	S		-13.00		
	30-1000	S		-13.00		
	1697.60	Н		-13.00		
	2546.40	Н		-13.00		
	3395.20	Н		-13.00		
	4244.00	Н		-13.00		
	5092.80	Н		-13.00		
	5941.60	Н		-13.00		
	6790.40	Н		-13.00		
	7503.00	S	-25.05	-13.00	12.05	
	7639.20	Н		-13.00		
	8488.00	Н		-13.00		

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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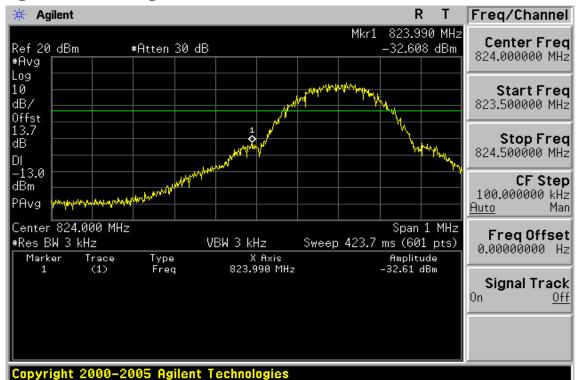
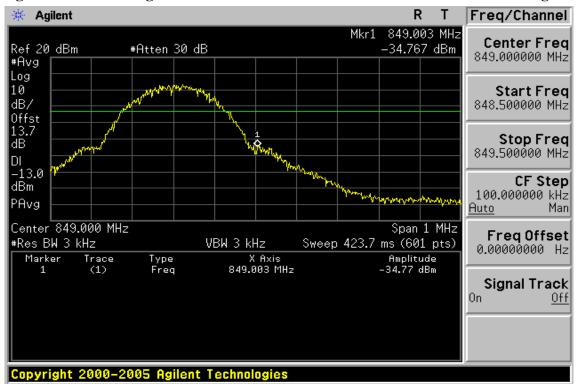


Figure 9-24: Band edge emission at antenna terminals – EDGE 850 Channel Lowest

Figure 9-25: Band edge emission at antenna terminals - EDGE 850 Channel Highest



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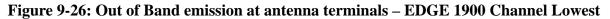
:Nick

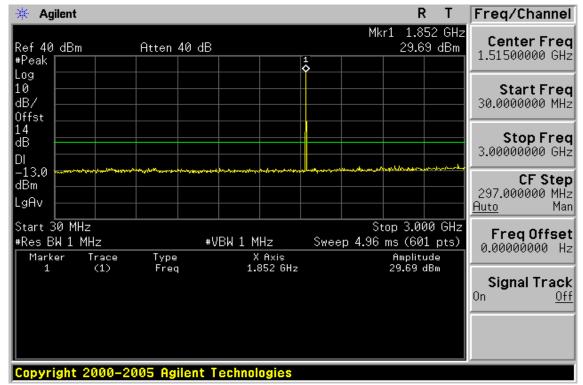
Band edge emission at antenna terminals - EDGE 850 Low & High Test Mode EDGE 850 Engineer Safe

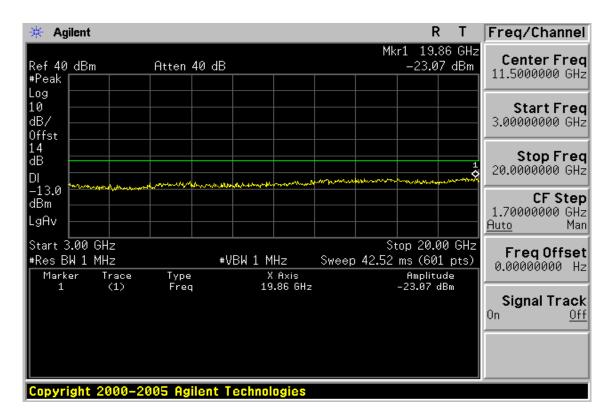
Freq.	Reading	Limit	Margin
MHz	dBm	dBm	dB
823.990	-32.61	-13.00	19.61
849.003	-34.77	-13.00	21.77

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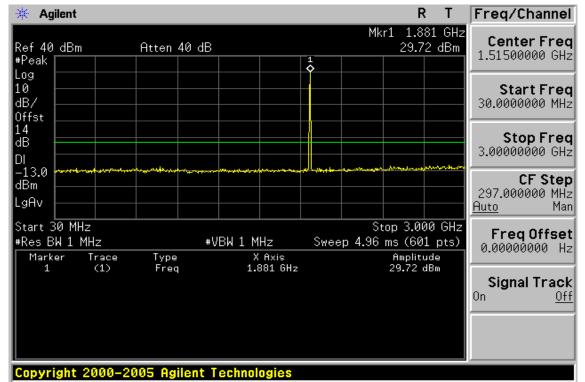
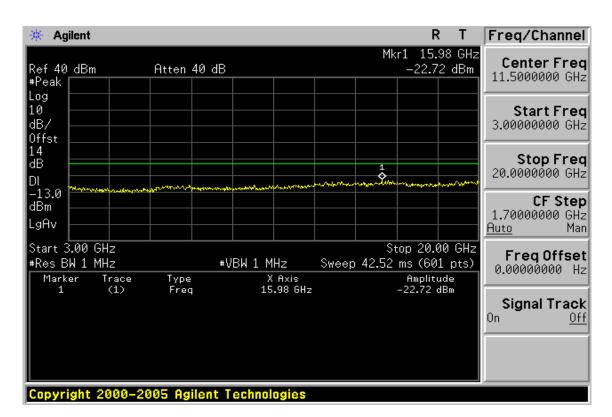


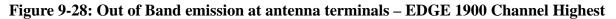
Figure 9-27: Out of Band emission at antenna terminals - EDGE 1900 Channel Mid

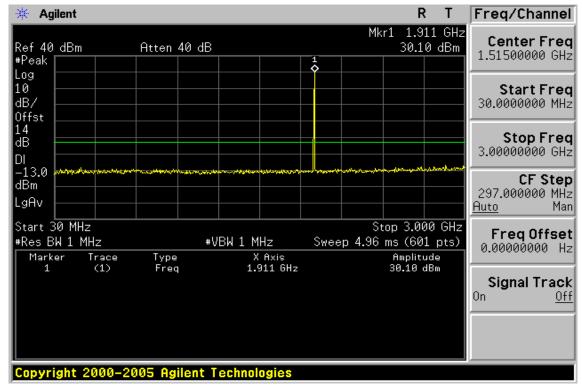


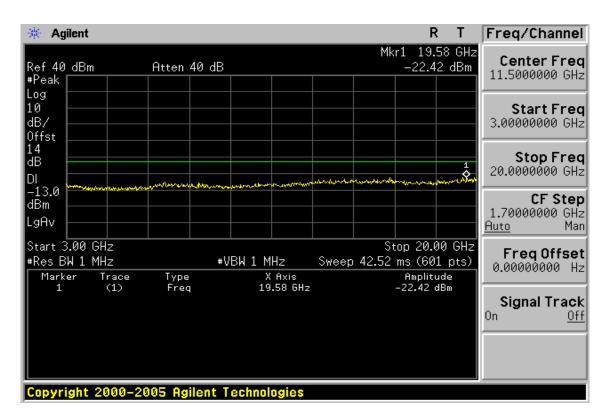
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Out of Band emission at antenna terminals - EDGE 1900

Fundamental Frequency Operation Mode	:1850.2 MHz :TX Low	Engin	eer	:Nick
Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
<30	S		-13.00	
30-1000	S		-13.00	
3700.40	Н		-13.00	
5550.60	Н		-13.00	
7400.80	Н		-13.00	
9251.00	Н		-13.00	
11101.20	Н		-13.00	
12951.40	Н		-13.00	
14801.60	Н		-13.00	
16651.80	Н		-13.00	
18502.00	Н		-13.00	
19860.00	S	-23.07	-13.00	10.07

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	15040.00	Н		-13.00	
	15980.00	S	-22.72	-13.00	9.72
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1909.8 MHz Engineer :TX High		eer	:Nick
-	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3819.60	Н		-13.00	
	5729.40	Н		-13.00	
	7639.20	Н		-13.00	
	9549.00	Н		-13.00	
	11458.80	Н		-13.00	
	13368.60	Н		-13.00	
	15278.40	Н		-13.00	
	17188.20	Н		-13.00	
	19098.00	Н		-13.00	
	19580.00	S	-22.42	-13.00	9.42

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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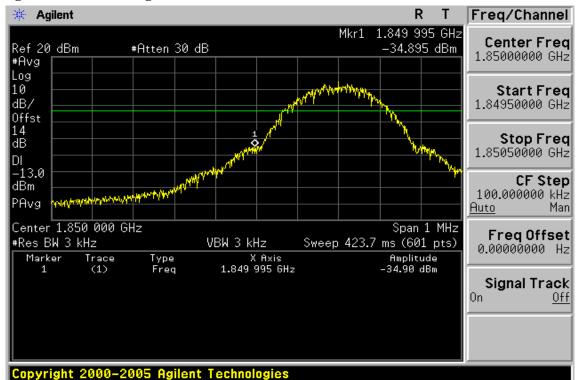
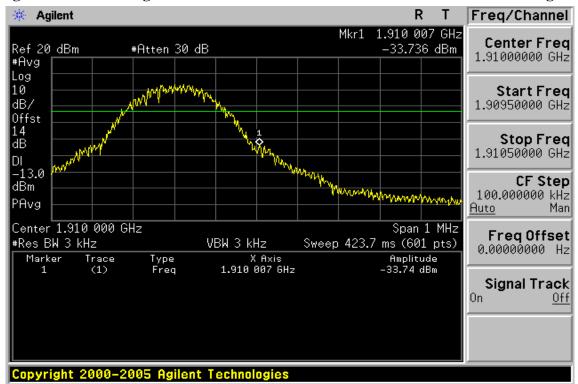


Figure 9-29: Band edge emission at antenna terminals – EDGE 1900 Channel Lowest

Figure 9-30: Band edge emission at antenna terminals – EDGE 1900 Channel Highest



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Test Mode EDGE 1900: Engineer :Nick Safe Reading Freq. Limit Margin MHz dBm dBm dB -34.90-13.0021.90 1849.995 1910.007 -33.74 -13.00 20.74

Band edge emission at antenna terminals - EDGE 1900 Low & High

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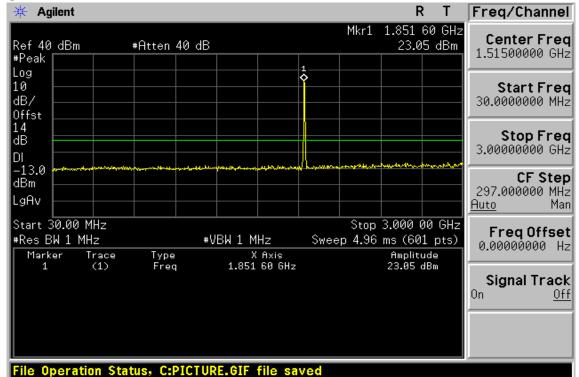
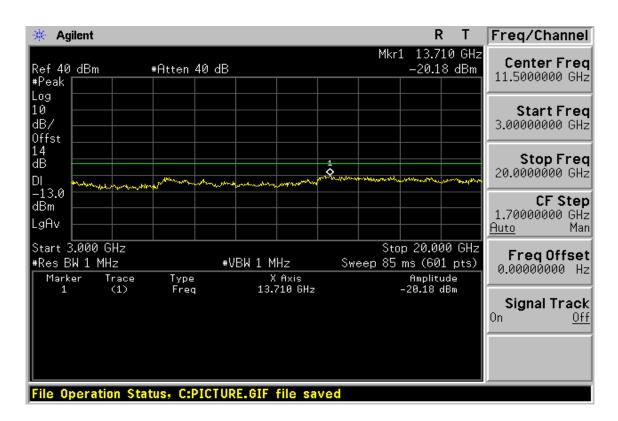


Figure 9-31: Out of Band emission at antenna terminals - WCDMA II Channel Lowest



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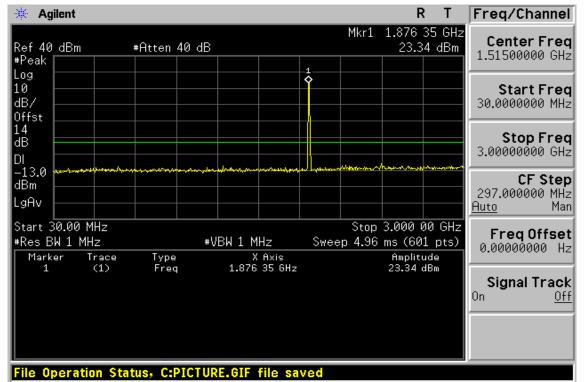
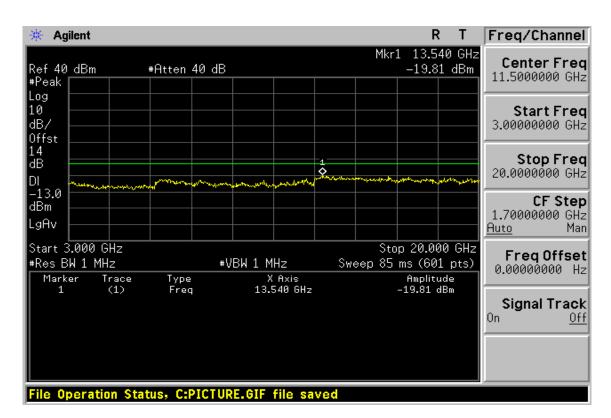


Figure 9-32: Out of Band emission at antenna terminals - WCDMA II Channel Mid

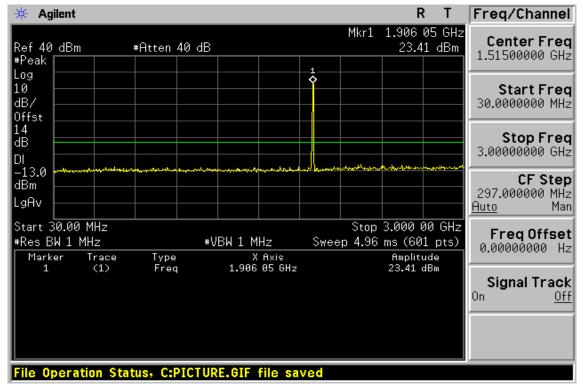


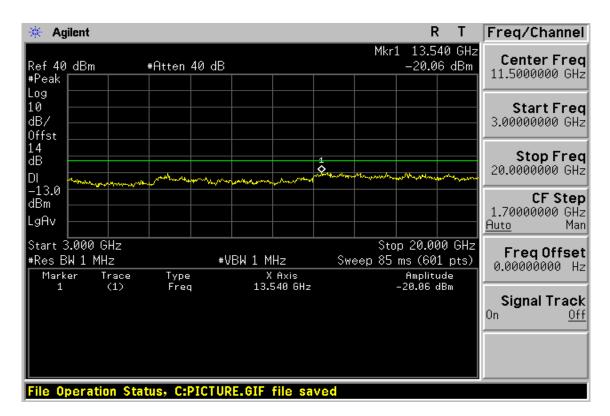
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Out of Band emission at antenna terminals - WCDMA II

Fundamental Frequency Operation Mode		:1852.4 MHz Engineer :TX Low		eer	:Nick	
_	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
	<30	S		-13.00		
	30-1000	S		-13.00		
	3704.80	Н		-13.00		
	5557.20	Н		-13.00		
	7409.60	Н		-13.00		
	9262.00	Н		-13.00		
	11114.40	Н		-13.00		
	12966.80	Н		-13.00		
	13710.00	S	-20.18	-13.00	7.18	
	14819.20	Н		-13.00		
	16671.60	Н		-13.00		
	18524.00	Н		-13.00		

Note : "H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz Eng :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	13540.00	S	-19.81	-13.00	6.81
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1907.6MHz :TX High	Engineer		:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
	<30	S		-13.00		
	30-1000	S		-13.00		
	3815.20	Н		-13.00		
	5722.80	Н		-13.00		
	7630.40	Н		-13.00		
	9538.00	Н		-13.00		
	11445.60	Н		-13.00		
	13353.20	Н		-13.00		
	13540.00	S	-20.06	-13.00	7.06	
	15260.80	Н		-13.00		
	17168.40	Н		-13.00		
	19076.00	Н		-13.00		

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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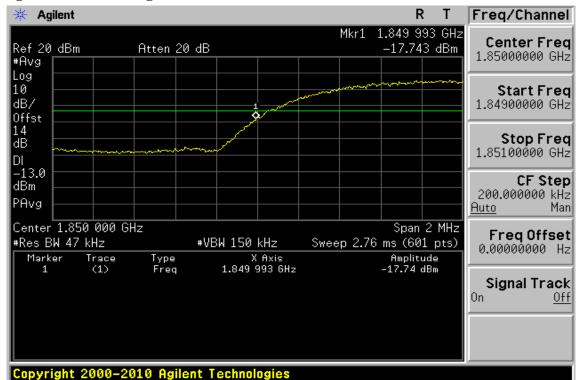
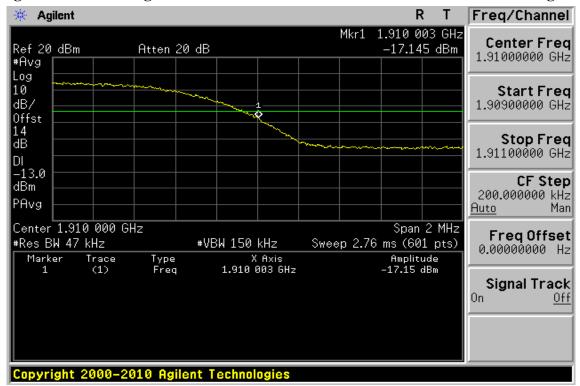


Figure 9-34: Band edge emission at antenna terminals – WCDMA II Channel Lowest

Figure 9-35: Band edge emission at antenna terminals – WCDMA II Channel Highest



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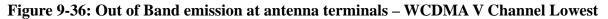
Test Mode	WCDMA I		Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	1849.993 1910.003	-17.74 -17.15	-13.00 -13.00	4.74 4.15	

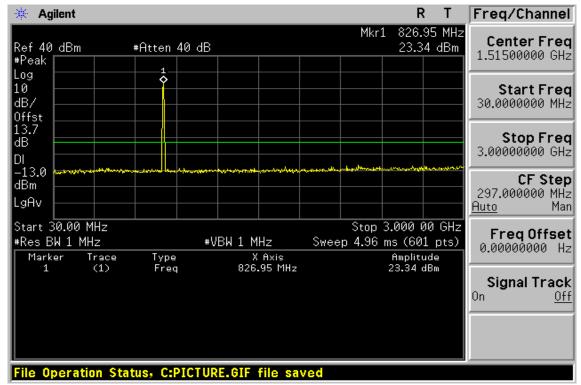
Band edge emission at antenna terminals - WCDMA II Low & High

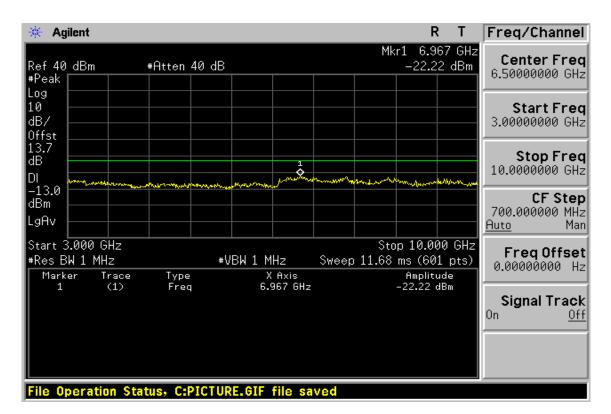
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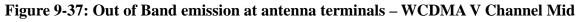


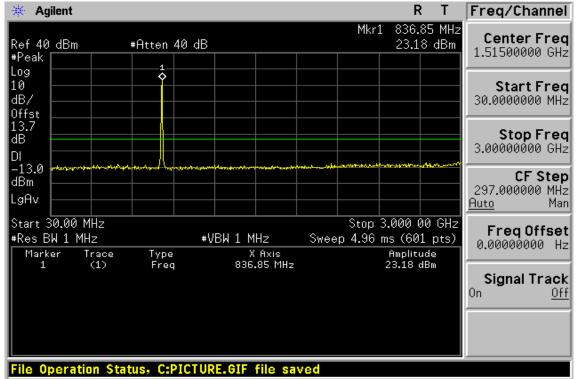


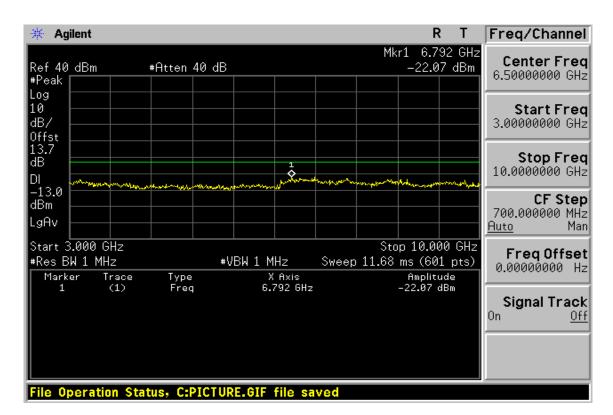


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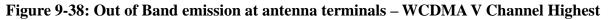


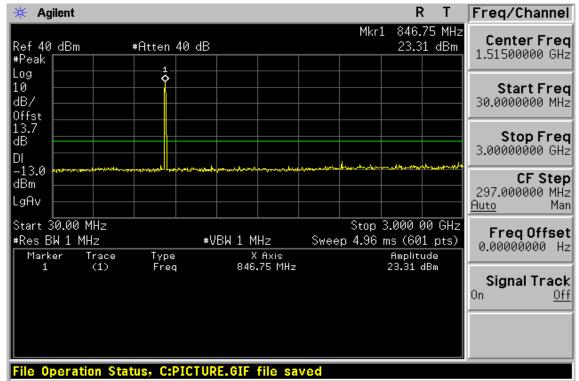


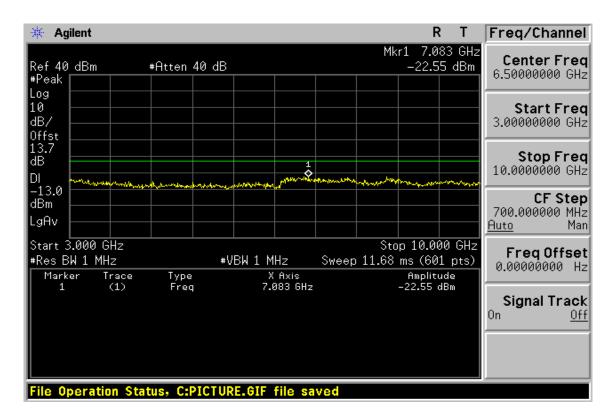


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Out of Band emission at antenna terminals - WCDMA V

Fundamental Frequency Operation Mode		:826.4 MHz Engineer :TX Low		:Nick	
_	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1652.80	Н		-13.00	
	2479.20	Н		-13.00	
	3305.60	Н		-13.00	
	4132.00	Н		-13.00	
	4958.40	Н		-13.00	
	5784.80	Н		-13.00	
	6611.20	Н		-13.00	
	6967.00	S	-22.22	-13.00	9.22
	7437.60	Н		-13.00	
	8264.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

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Fundamental Frequency Operation Mode		:836.6 MHz Er :TX Mid		Engineer	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.20	Н		-13.00	
	2509.80	Н		-13.00	
	3346.40	Н		-13.00	
	4183.00	Н		-13.00	
	5019.60	Н		-13.00	
	5856.20	Н		-13.00	
	6692.80	Н		-13.00	
	6792.00	S	-22.07	-13.00	9.07
	7529.40	Н		-13.00	
	8366.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:846.6MHz :TX High	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1693.20	Н		-13.00	
	2539.80	Н		-13.00	
	3386.40	Н		-13.00	
	4233.00	Н		-13.00	
	5079.60	Н		-13.00	
	5926.20	Н		-13.00	
	6772.80	Н		-13.00	
	7083.00	S	-22.55	-13.00	9.55
	7619.40	Н		-13.00	
	8466.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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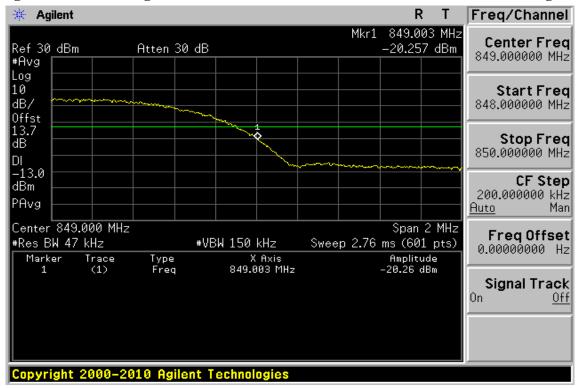
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Figure 9-39: Band edge emission at antenna terminals – WCDMA V Channel Lowest

Figure 9-40: Band edge emission at antenna terminals - WCDMA V Channel Highest



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Test Mode

FCC ID: PY7-PM0855

WCDMA Y	V	Engineer		:Nick
Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
823.997 849.003	-19.85 -20.26	-13.00 -13.00	6.85 7.26	

Band edge emission at antenna terminals - WCDMA V Low & High

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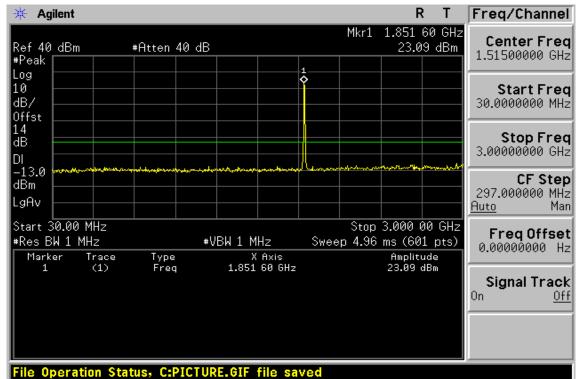
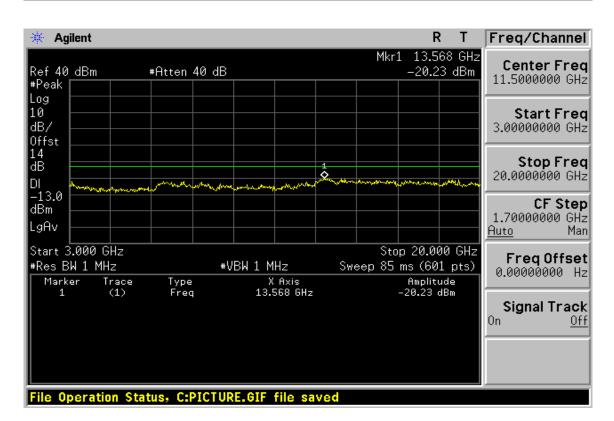


Figure 9-41: Out of Band emission at antenna terminals – HSDPA II Channel Lowest



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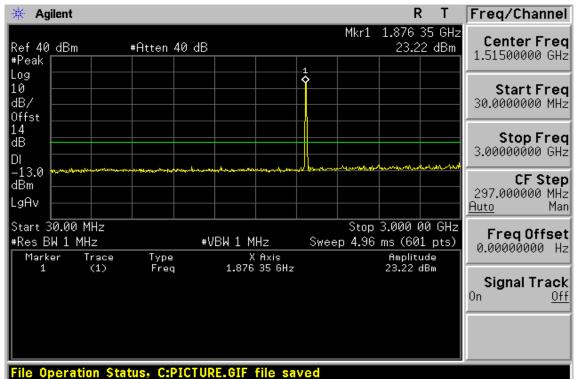
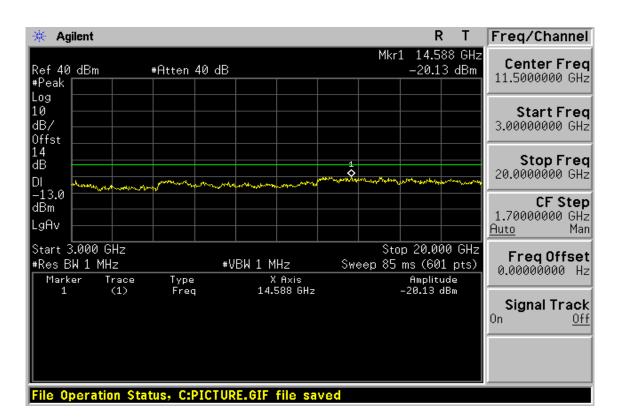


Figure 9-42: Out of Band emission at antenna terminals – HSDPA II Channel Mid



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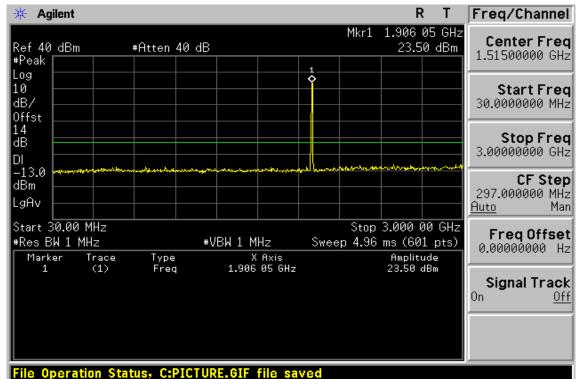
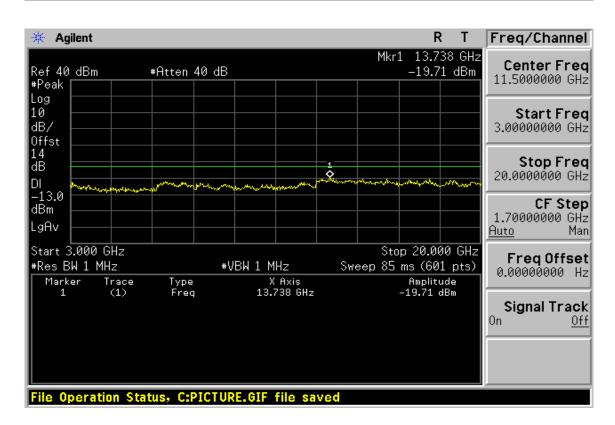


Figure 9-43: Out of Band emission at antenna terminals – HSDPA II Channel Highest



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Out of Band emission at antenna terminals - HSDPA II

Fundamental Frequency Operation Mode		:1852.4 MHz Engine :TX Low		eer	:Nick
	eq. Hz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
<	30	S		-13.00	
	000	S		-13.00	
370	4.80	Н		-13.00	
555	7.20	Н		-13.00	
740	9.60	Н		-13.00	
926	2.00	Н		-13.00	
1111	4.40	Н		-13.00	
1296	6.80	Н		-13.00	
1356	58.00	S	-20.23	-13.00	7.23
1481	9.20	Н		-13.00	
1667	71.60	Н		-13.00	
1852	24.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz Engi :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	14588.00	S	-20.13	-13.00	7.13
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	

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Fundamental Frequency Operation Mode		:1907.6MHz Engi :TX High		neer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3815.20	Н		-13.00	
	5722.80	Н		-13.00	
	7630.40	Н		-13.00	
	9538.00	Н		-13.00	
	11445.60	Н		-13.00	
	13353.20	Н		-13.00	
	13738.00	S	-19.71	-13.00	6.71
	15260.80	Н		-13.00	
	17168.40	Н		-13.00	
	19076.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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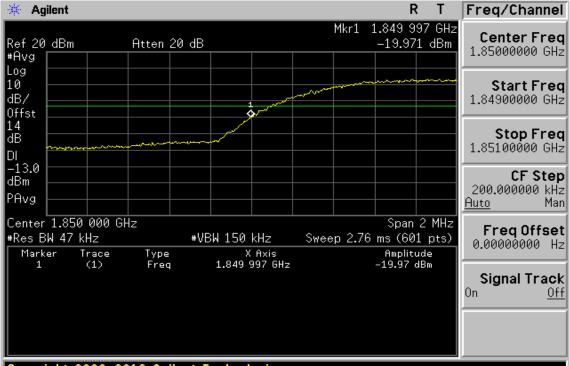


Figure 9-44: Band edge emission at antenna terminals – HSDPA II Channel Lowest

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Figure 9-50: Band edge emission at antenna terminals – HSDPA II Channel Highest



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-

:Nick

Band edge emission at antenna terminals - HSDPA II Low & High Test Mode HSDPA II Engineer

Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB
1849.997	-19.97	-13.00	6.97
1910.003	-20.70	-13.00	7.70

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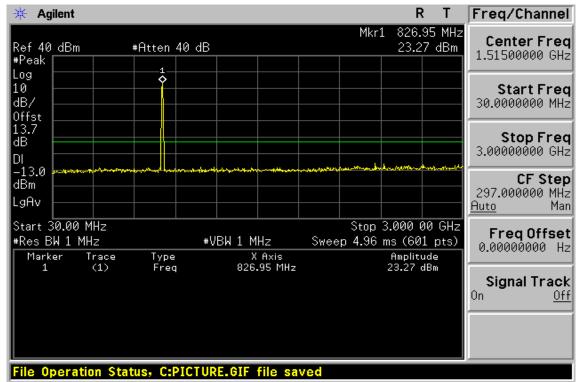
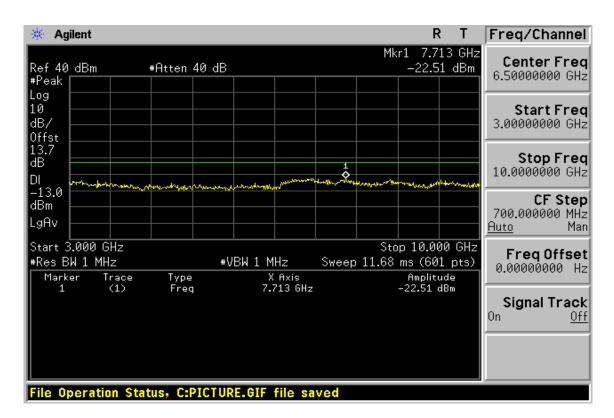


Figure 9-45: Out of Band emission at antenna terminals – HSDPA V Channel Lowest



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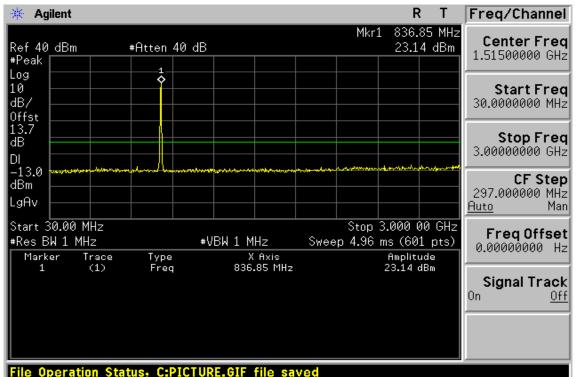
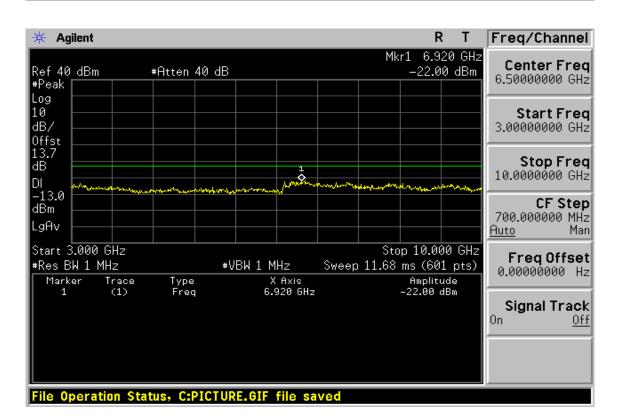


Figure 9-46: Out of Band emission at antenna terminals - HSDPA V Channel Mid



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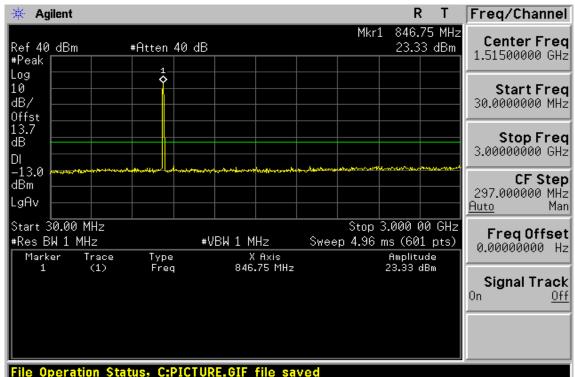
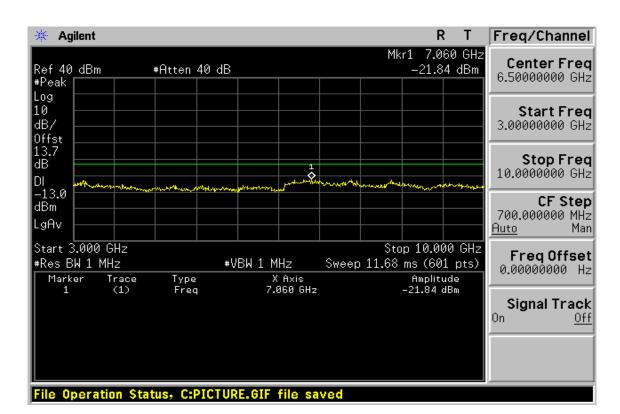


Figure 9-47: Out of Band emission at antenna terminals – HSDPA V Channel Highest



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Out of Band emission at antenna terminals - HSDPA V

Fundamental Frequency Operation Mode		:826.4 MHz :TX Low	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1652.80	Н		-13.00	
	2479.20	Н		-13.00	
	3305.60	Н		-13.00	
	4132.00	Н		-13.00	
	4958.40	Н		-13.00	
	5784.80	Н		-13.00	
	6611.20	Н		-13.00	
	7437.60	Н		-13.00	
	7713.00	S	-22.51	-13.00	9.51
	8264.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

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Fundamental Frequency Operation Mode		:836.6 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.20	Н		-13.00	
	2509.80	Н		-13.00	
	3346.40	Н		-13.00	
	4183.00	Н		-13.00	
	5019.60	Н		-13.00	
	5856.20	Н		-13.00	
	6692.80	Н		-13.00	
	6920.00	S	-22	-13.00	9.00
	7529.40	Н		-13.00	
	8366.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:846.6MHz Engineer :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1693.20	Н		-13.00	
	2539.80	Н		-13.00	
	3386.40	Н		-13.00	
	4233.00	Н		-13.00	
	5079.60	Н		-13.00	
	5926.20	Н		-13.00	
	6772.80	Н		-13.00	
	7060.00	S	-21.84	-13.00	8.84
	7619.40	Н		-13.00	
	8466.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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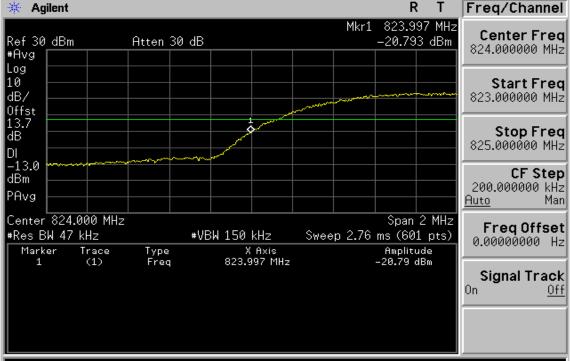
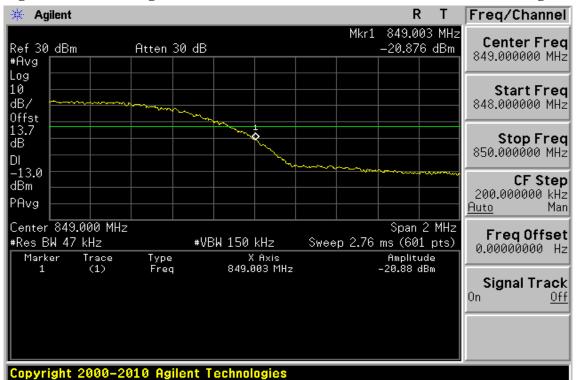


Figure 9-48: Band edge emission at antenna terminals – HSDPA V Channel Lowest

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Figure 9-49: Band edge emission at antenna terminals – HSDPA V Channel Highest



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:Nick

Band edge emission at antenna terminals - HSDPA V Low & High Test Mode HSDPA V Engineer

Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB
823.997	-20.79	-13.00	7.79
849.003	-20.88	-13.00	7.88

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GS Taiwan Ltd.



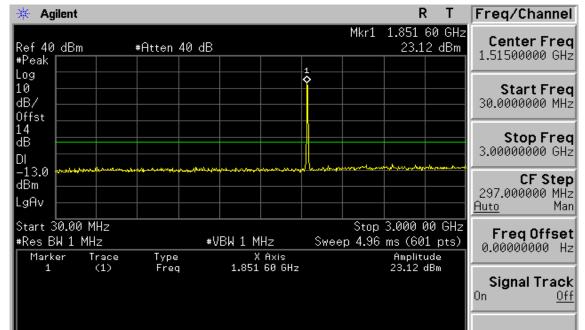
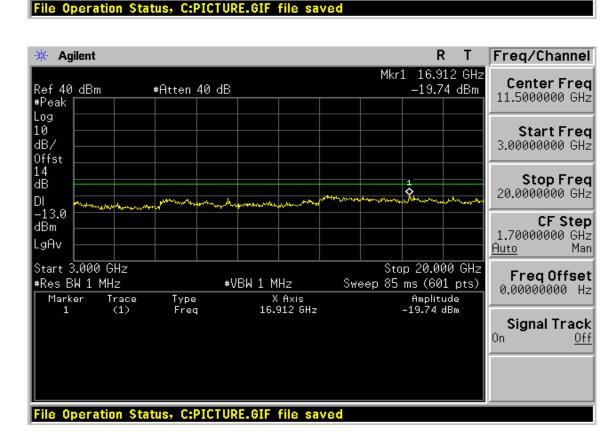


Figure 9-50: Out of Band emission at antenna terminals – HSUPA II Channel Lowest



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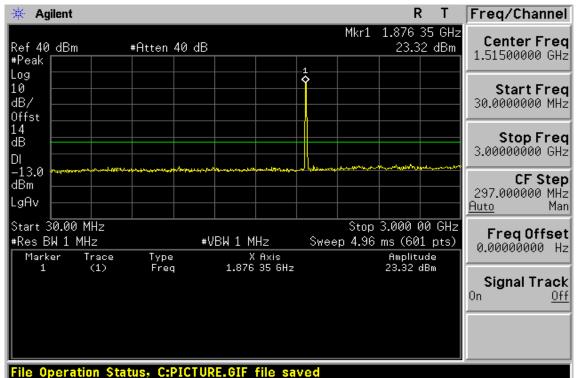
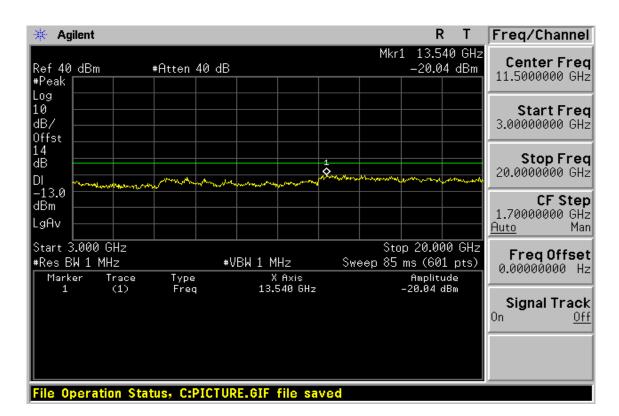


Figure 9-51: Out of Band emission at antenna terminals – HSUPA II Channel Mid



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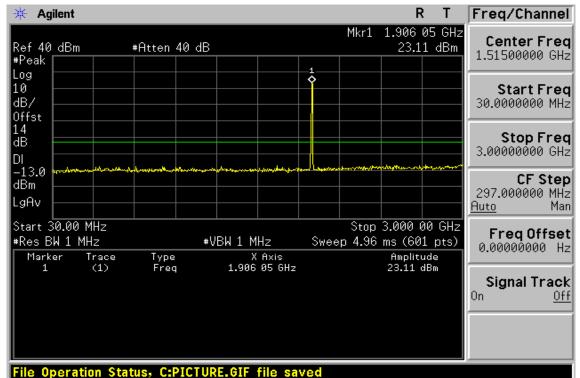
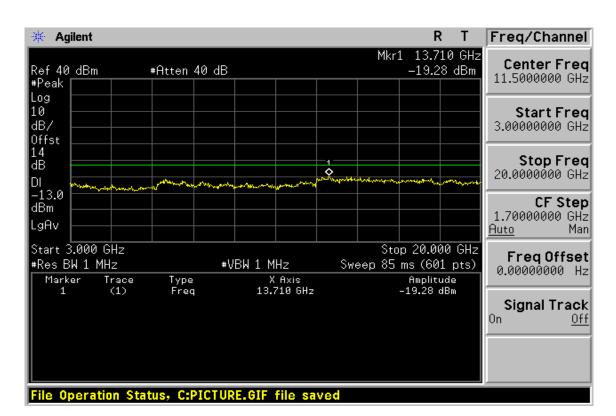


Figure 9-52: Out of Band emission at antenna terminals – HSUPA II Channel Highest



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Out of Band emission at antenna terminals - HSUPA II

Fundamental Frequency Operation Mode		:1852.4 MHz :TX Low	e		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3704.80	Н		-13.00	
	5557.20	Н		-13.00	
	7409.60	Н		-13.00	
	9262.00	Н		-13.00	
	11114.40	Н		-13.00	
	12966.80	Н		-13.00	
	14819.20	Н		-13.00	
	16671.60	Н		-13.00	
	16912.00	S	-19.74	-13.00	6.74
	18524.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz :TX Mid	e		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	13540.00	S	-20.04	-13.00	7.04
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	

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Fundamental Frequency Operation Mode		:1907.6MHz :TX High	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3815.20	Н		-13.00	
	5722.80	Н		-13.00	
	7630.40	Н		-13.00	
	9538.00	Н		-13.00	
	11445.60	Н		-13.00	
	13353.20	Н		-13.00	
	13710.00	S	-19.28	-13.00	6.28
	15260.80	Н		-13.00	
	17168.40	Н		-13.00	
	19076.00	Н		-13.00	

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Figure 9-53: Band edge emission at antenna terminals – HSUPA II Channel Lowest

Figure 9-54: Band edge emission at antenna terminals – HSUPA II Channel Highest



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:Nick

Band edge emission at antenna terminals - HSUPA II Low & High Engineer Test Mode HSUPA II

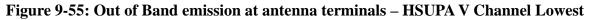
Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB
1849.997	-19.05	-13.00	6.05
1910.003	-20.38	-13.00	7.38

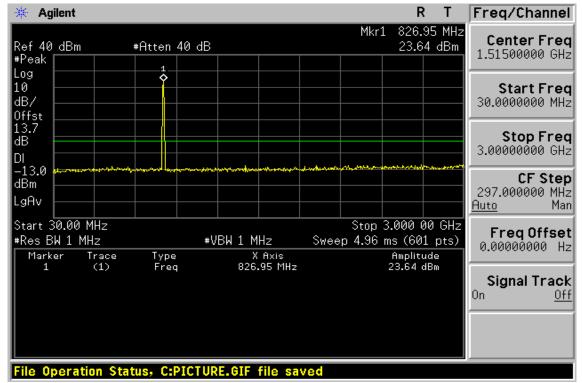
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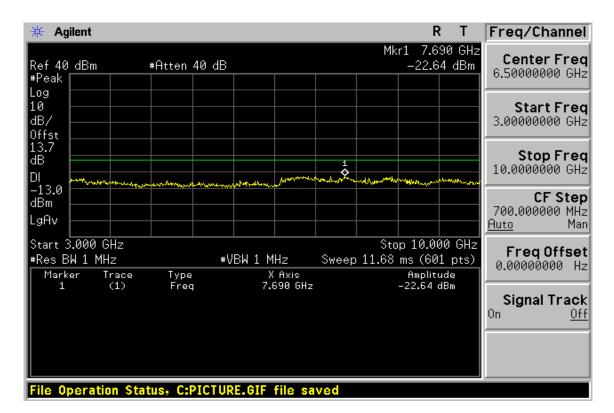
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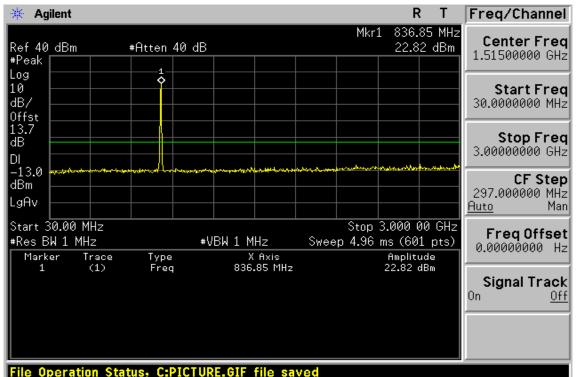
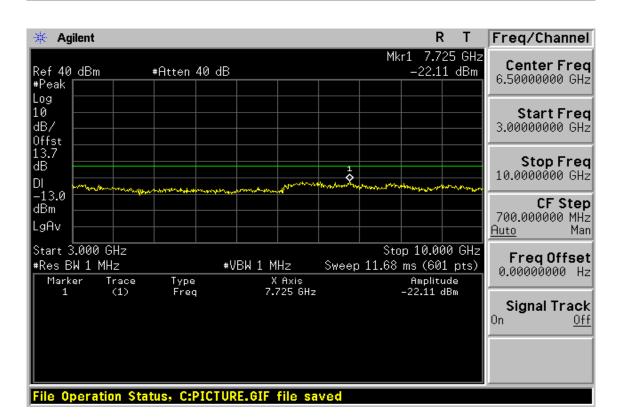
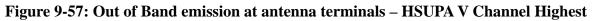


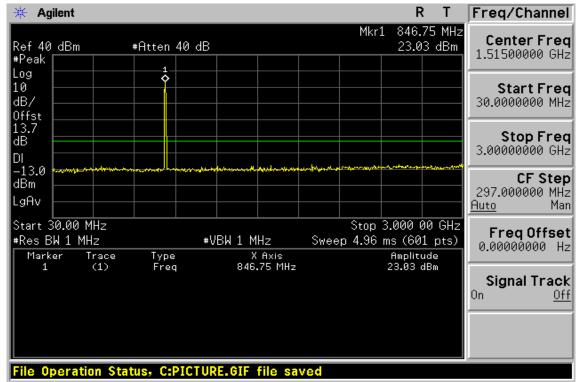
Figure 9-56: Out of Band emission at antenna terminals – HSUPA V Channel Mid

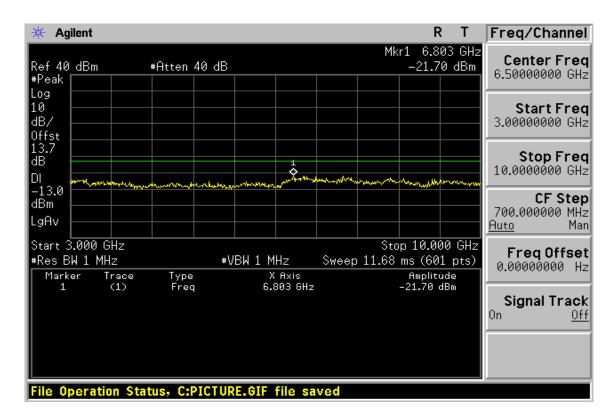


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Out of Band emission at antenna terminals - HSUPA V

Fundamental Frequency Operation Mode		:826.4 MHz :TX Low	e		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1652.80	Н		-13.00	
	2479.20	Н		-13.00	
	3305.60	Н		-13.00	
	4132.00	Н		-13.00	
	4958.40	Н		-13.00	
	5784.80	Н		-13.00	
	6611.20	Н		-13.00	
	7437.60	Н		-13.00	
	7690.00	S	-22.64	-13.00	9.64
	8264.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:836.6 MHz :TX Mid	e		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.20	Н		-13.00	
	2509.80	Н		-13.00	
	3346.40	Н		-13.00	
	4183.00	Н		-13.00	
	5019.60	Н		-13.00	
	5856.20	Н		-13.00	
	6692.80	Н		-13.00	
	7529.40	Н		-13.00	
	7725.00	S	-22.11	-13.00	9.11
	8366.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

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Fundamental Frequency Operation Mode		:846.6MHz Engineer :TX High		:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1693.20	Н		-13.00	
	2539.80	Н		-13.00	
	3386.40	Н		-13.00	
	4233.00	Н		-13.00	
	5079.60	Н		-13.00	
	5926.20	Н		-13.00	
	6772.80	Н		-13.00	
	6803.00	S	-21.7	-13.00	8.70
	7619.40	Н		-13.00	
	8466.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

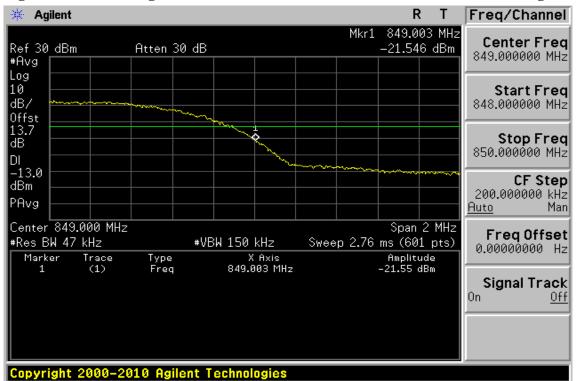
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Figure 9-58: Band edge emission at antenna terminals – HSUPA V Channel Lowest

Figure 9-59: Band edge emission at antenna terminals – HSUPA V Channel Highest



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:Nick

8.32

8.55

Band edge emission at antenna terminals – HSUPA V Low & High Test Mode HSUPA V Engineer Freq. Reading Limit Safe MHz dBm dBm dB

823.997

849.003

-21.32

-21.55

-13.00

-13.00

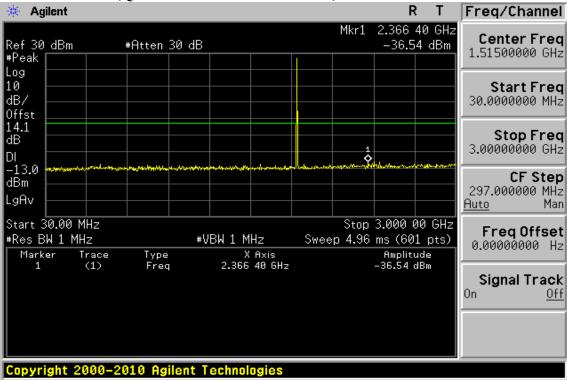
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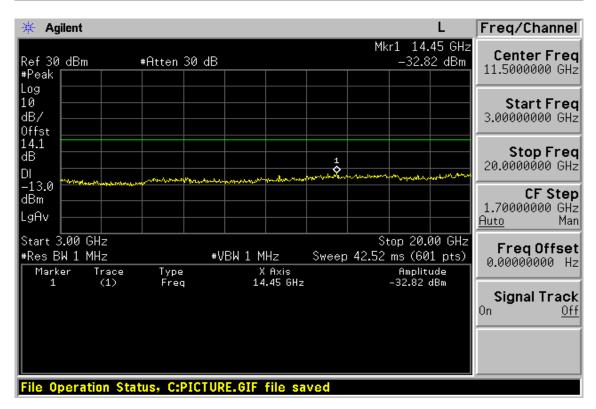
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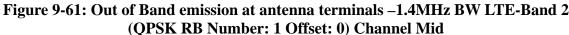


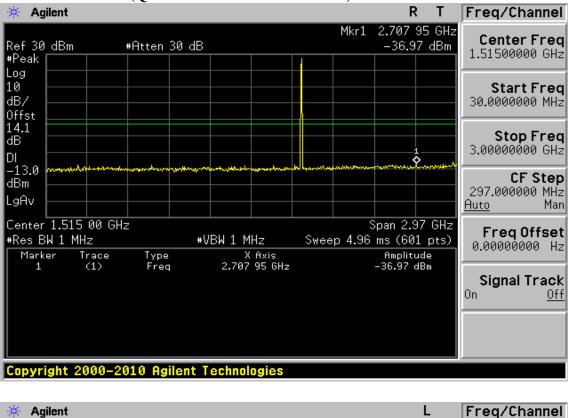


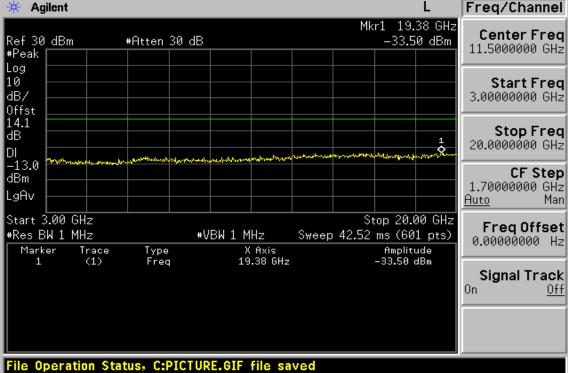
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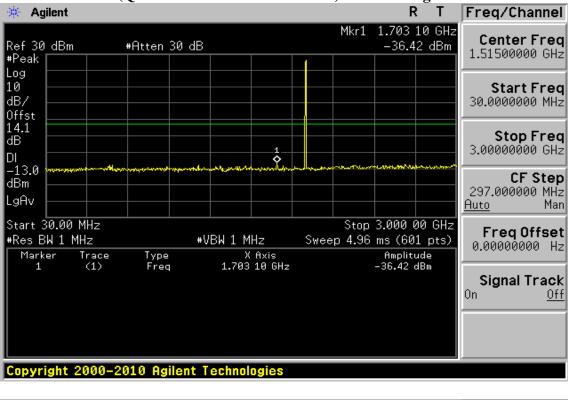


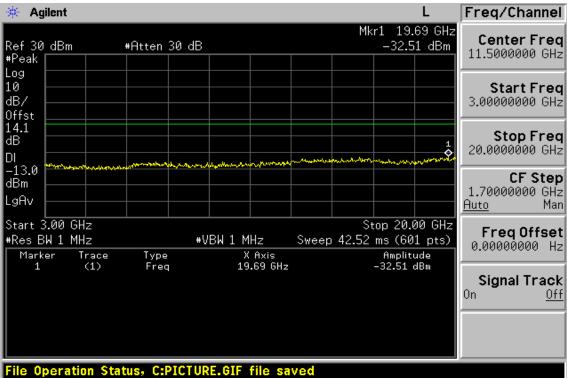
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Out of Band emission at antenna terminals -1.4MHz BW LTE-Band 2

(OPSK RB Number: 1 Offset: 0)

Fundamental Frequency Operation Mode	· · · · · · · · · · · · · · · · · · ·	Engineer		:Nick
F ue a	NI-4-	Deedine	T: '/	Safe

Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
<30	S		-13.00	
30-1000	S		-13.00	
3701.40	Н		-13.00	
5552.10	Н		-13.00	
7402.80	Н		-13.00	
9253.50	Н		-13.00	
11104.20	Н		-13.00	
12954.90	Н		-13.00	
14450.00	S	-32.82	-13.00	19.82
14805.60	Н		-13.00	
16656.30	Н		-13.00	
18507.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 235 of 471

Fundamental Frequency Operation Mode		:1880.0 MHz :TX Mid	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	
	19380.00	S	-33.5	-13.00	20.50

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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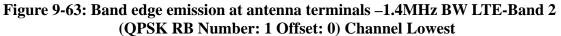
Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 236 of 471

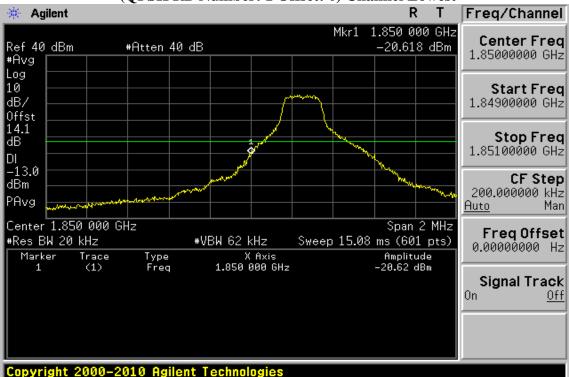
Fundamental Frequency Operation Mode		:1909.3 MHz :TX High	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3818.60	Н		-13.00	
	5727.90	Н		-13.00	
	7637.20	Н		-13.00	
	9546.50	Н		-13.00	
	11455.80	Н		-13.00	
	13365.10	Н		-13.00	
	15274.40	Н		-13.00	
	17183.70	Н		-13.00	
	19093.00	Н		-13.00	
	19690.00	S	-32.51	-13.00	19.51

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : ": denotes Spurious Freque

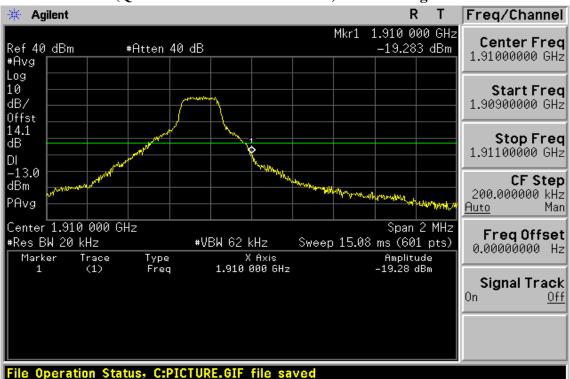
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Band edge emission at antenna terminals -1.4MHz BW LTE-Band 2

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 5)

Test Mode	1.4MHz BW	W LTE-Band 2 Engineer			:Nick	
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin		

	GD III	QD III	dB
1850.000	-20.62	-13.00	7.62
1910.000	-19.28	-13.00	6.28

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Figure 9-65: Band edge emission at antenna terminals –1.4MHz BW LTE-Band 2 (QPSK RB Number: 6 Offset: 0) Channel Lowest



Figure 9-66: Band edge emission at antenna terminals –1.4MHz BW LTE-Band 2 (QPSK RB Number: 6 Offset: 0) Channel Highest



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Band edge emission at antenna terminals -1.4MHz BW LTE-Band 2

(QPSK RB Number: 6 Offset: 0)

Test Mode	1.4MHz B	1.4MHz BW LTE-Band 2		eer	
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	1850.000 1910.000	-22.1 -20.53	-13.00 -13.00	9.10 7.53	

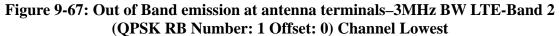
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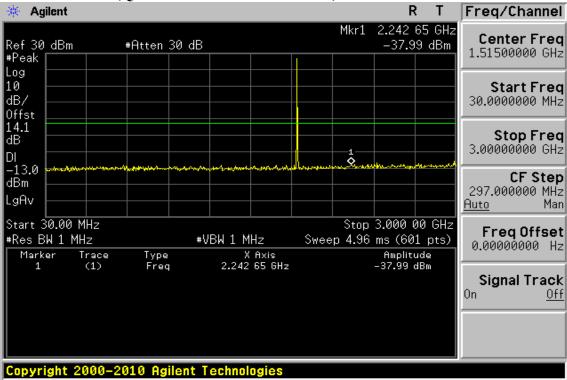
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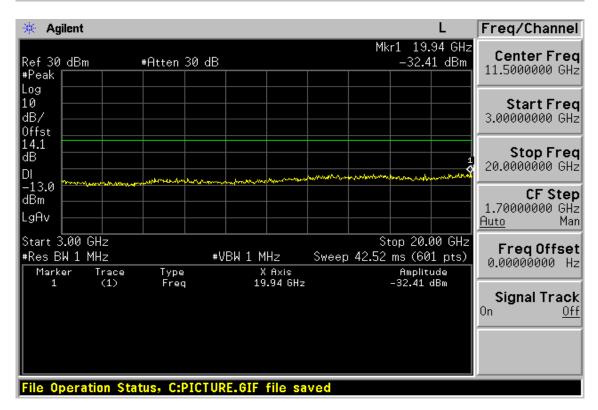
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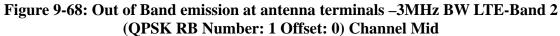


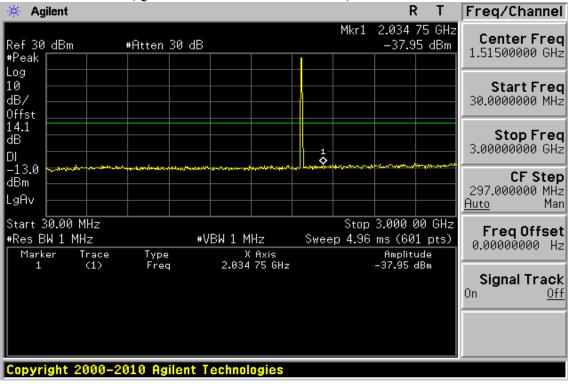


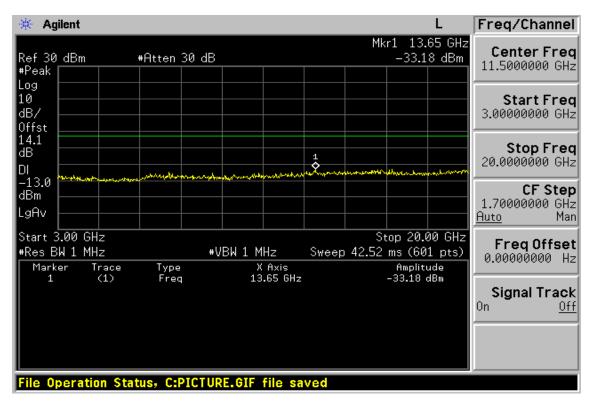
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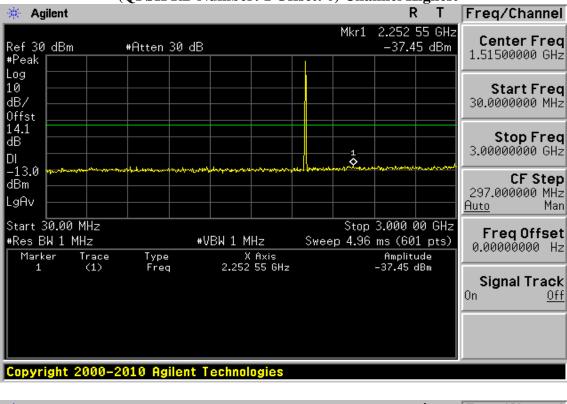
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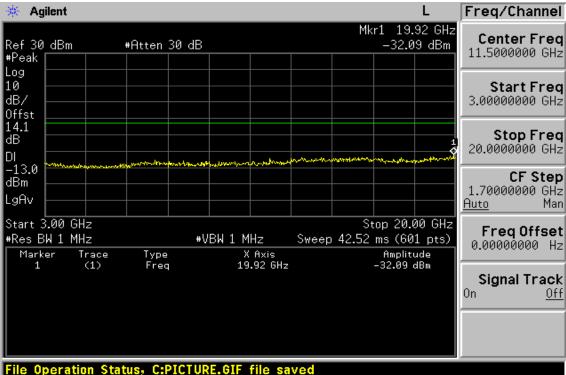
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Out of Band emission at antenna terminals -3MHz BW LTE-Band 2

(OPSK RB Number: 1 Offset: 0)

Fundamental Frequency Operation Mode	· ·	Engineer	:Nick
-			

Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
<30	S		-13.00	
30-1000	S		-13.00	
3703.00	Н		-13.00	
5554.50	Н		-13.00	
7406.00	Н		-13.00	
9257.50	Н		-13.00	
11109.00	Н		-13.00	
12960.50	Н		-13.00	
14812.00	Н		-13.00	
16663.50	Н		-13.00	
18515.00	Н		-13.00	
19940.00	S	-32.41	-13.00	19.41

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---": denotes Noise Floor.

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FCC ID: PY7-PM0855

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Fundamental Frequency Operation Mode		:1880.0 MHz :TX Mid	e		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	13650.00	S	-33.18	-13.00	20.18
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	

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FCC ID: PY7-PM0855

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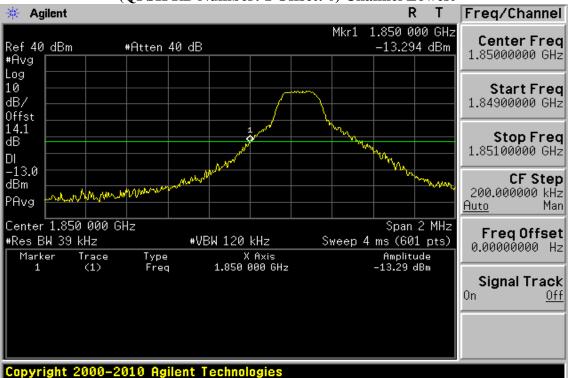
Fundamental Frequency Operation Mode		:1908.5 MHz :TX High	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	-20	S		-13.00	
	<30 30-1000	S		-13.00	
	3817.00	Н		-13.00	
	5725.50	Н		-13.00	
	7634.00	Н		-13.00	
	9542.50	Н		-13.00	
	11451.00	Н		-13.00	
	13359.50	Н		-13.00	
	15268.00	Н		-13.00	
	17176.50	Н		-13.00	
	19085.00	Н		-13.00	
	19920.00	S	-32.09	-13.00	19.09

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

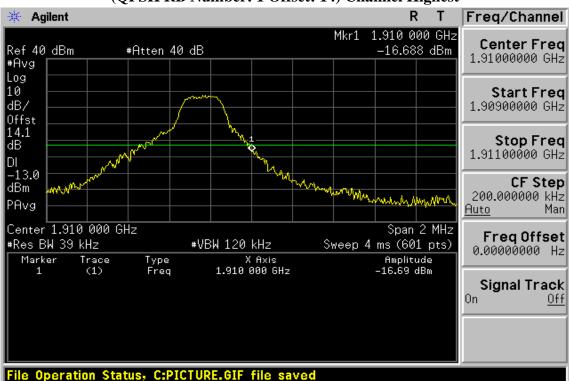
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Band edge emission at antenna terminals -3MHz BW LTE-Band 2

1910.000

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 14)

Test Mode	3MHz BW	3MHz BW LTE-Band 2			:Nick	
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB		
	1850.000	-13.29	-13.00	0.29		

-16.69

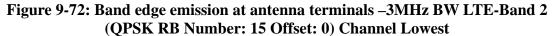
-13.00

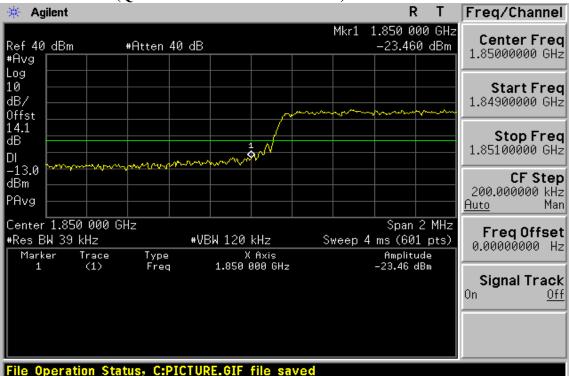
3.69

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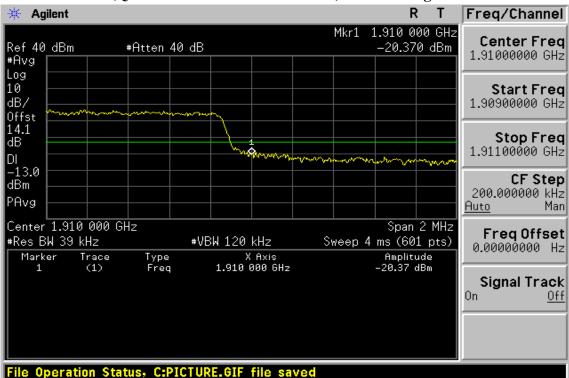
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Band edge emission at antenna terminals -3MHz BW LTE-Band 2

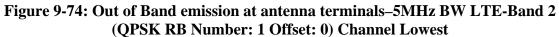
(QPSK RB Number: 15 Offset: 0)

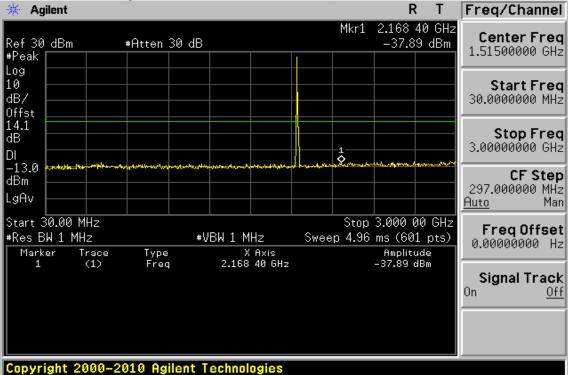
Test Mode	3MHz BW	3MHz BW LTE-Band 2			:Nick	
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB		
	1850.000 1910.000	-23.46 -20.37	-13.00 -13.00	10.46 7.37		

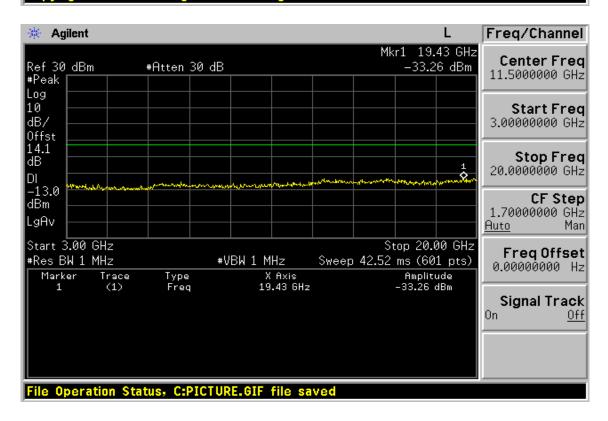
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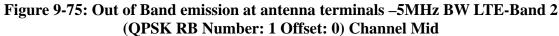


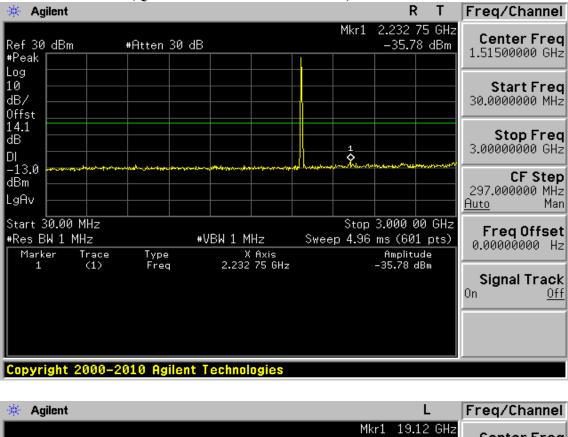
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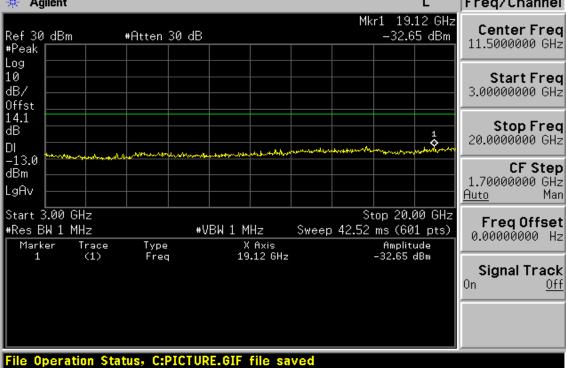
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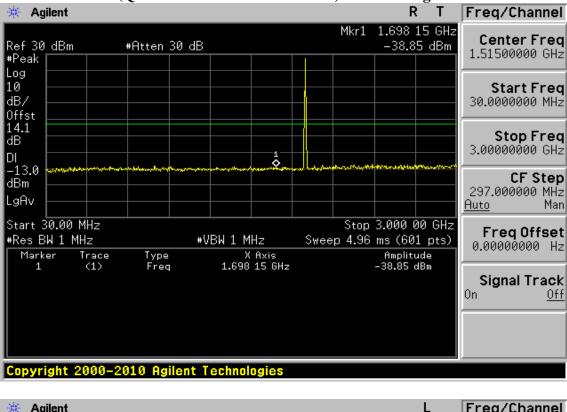


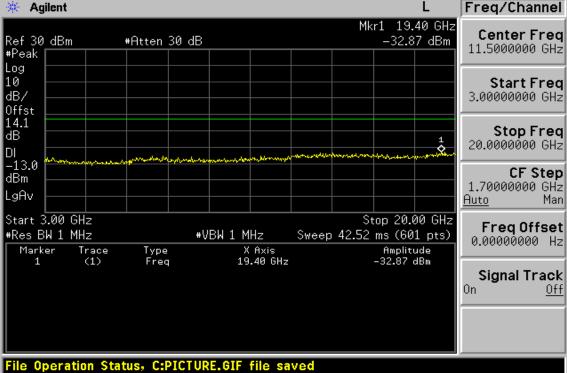


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Out of Band emission at antenna terminals -5MHz BW LTE-Band 2

(OPSK RB Number: 1 Offset: 0)

Fundamental Frequency Operation Mode	,	Engineer	:Nick
Freq	Note	Reading Limit	Safe

	(MHz)	F/H/E/S	dBm	dBm	Margin dB
_					
	<30	S		-13.00	
	30-1000	S		-13.00	
	3705.00	Н		-13.00	
	5557.50	Н		-13.00	
	7410.00	Н		-13.00	
	9262.50	Н		-13.00	
	11115.00	Н		-13.00	
	12967.50	Н		-13.00	
	14820.00	Н		-13.00	
	16672.50	Н		-13.00	
	18525.00	Н		-13.00	
	19430.00	S	-33.26	-13.00	20.26

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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Fundamental Frequency Operation Mode		:1880.0 MHz :TX Mid	Engineer		:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
	<30	S		-13.00		
	30-1000	S		-13.00		
	3760.00	Н		-13.00		
	5640.00	Н		-13.00		
	7520.00	Н		-13.00		
	9400.00	Н		-13.00		
	11280.00	Н		-13.00		
	13160.00	Н		-13.00		
	15040.00	Н		-13.00		
	16920.00	Н		-13.00		
	18800.00	Н		-13.00		
	19120.00	S	-32.65	-13.00	19.65	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

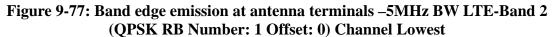
Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 256 of 471

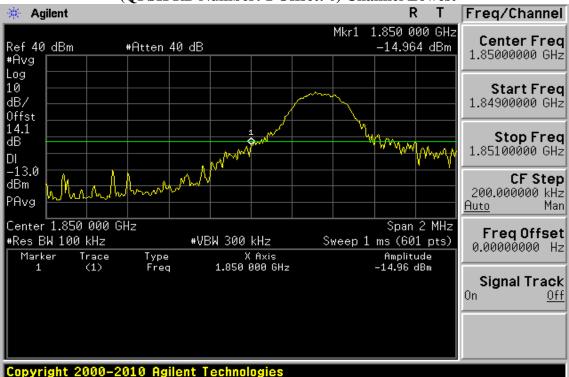
Fundamental Frequency Operation Mode		:1907.5 MHz :TX High	Engin	Engineer	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<20	S		-13.00	
	<30 30-1000	S		-13.00	
	3815.00	Н		-13.00	
	5722.50	Н		-13.00	
	7630.00	Н		-13.00	
	9537.50	Н		-13.00	
	11445.00	Н		-13.00	
	13352.50	Н		-13.00	
	15260.00	Н		-13.00	
	17167.50	Н		-13.00	
	19075.00	Н		-13.00	
	19400.00	S	-32.87	-13.00	19.87

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

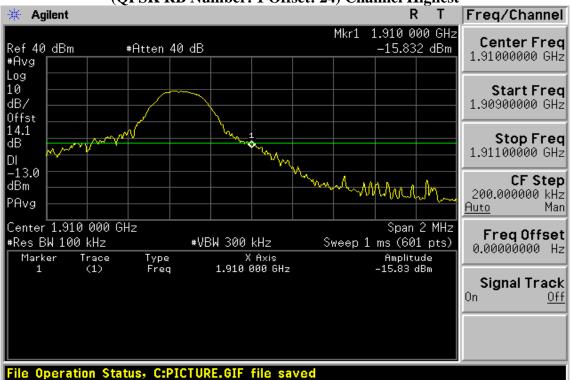
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Band edge emission at antenna terminals –5MHz BW LTE-Band 2

1910.000

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 24)

Test Mode	5MHz BW	LTE-Band 2	Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	1850.000	-14.96	-13.00	1.96	

-15.83

-13.00

2.83

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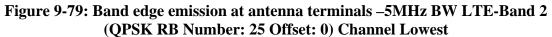
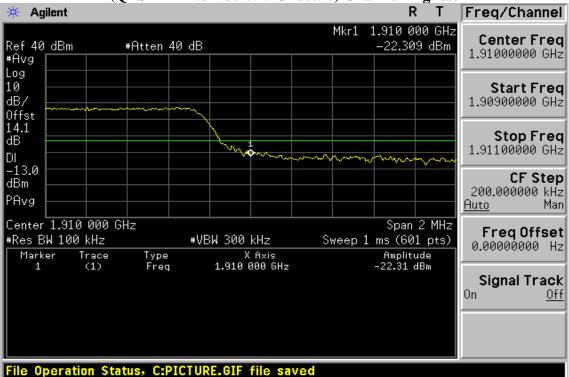




Figure 9-80: Band edge emission at antenna terminals –5MHz BW LTE-Band 2 (QPSK RB Number: 25 Offset: 0) Channel Highest



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Test Mode

Band edge emission at antenna terminals -5MHz BW LTE-Band 2

(QPSK RB Number: 25 Offset: 0)

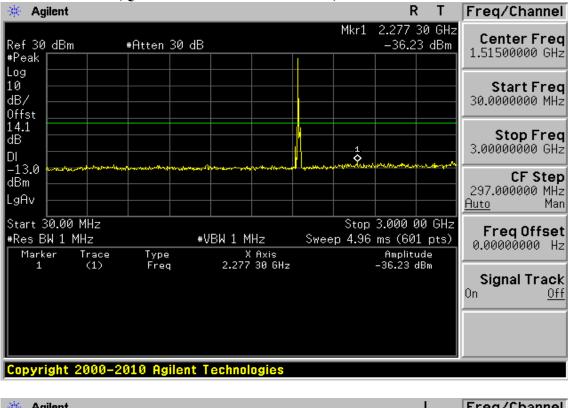
;	5MHz BW	LTE-Band 2	Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	1850.000 1910.000	-24.21 -22.31	-13.00 -13.00	11.21 9.31	

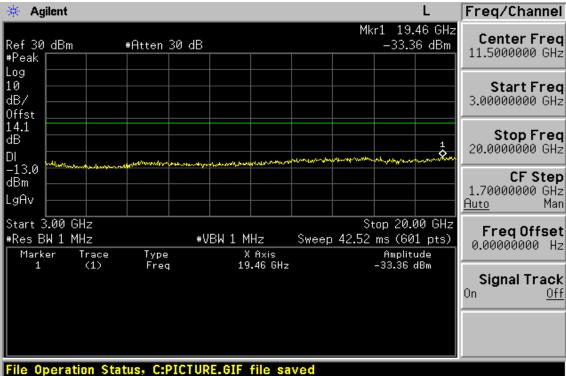
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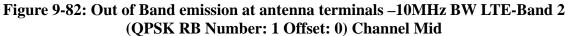


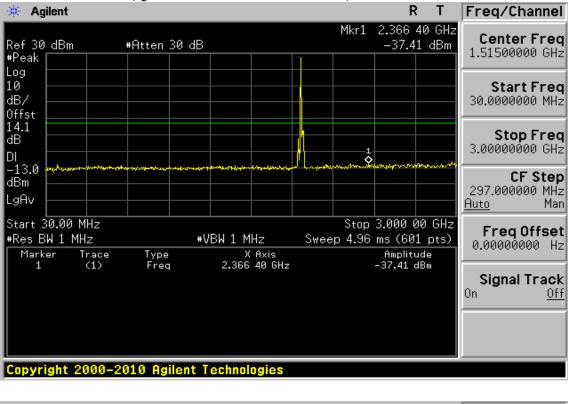


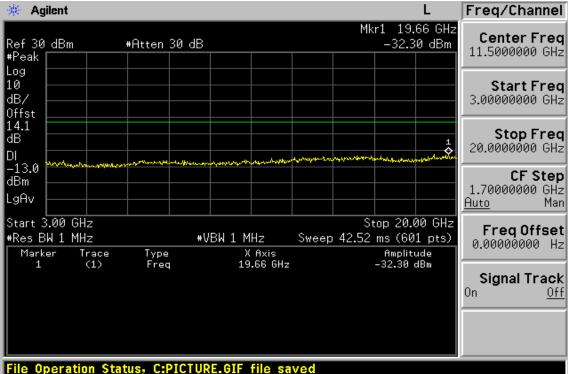
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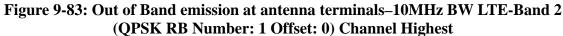


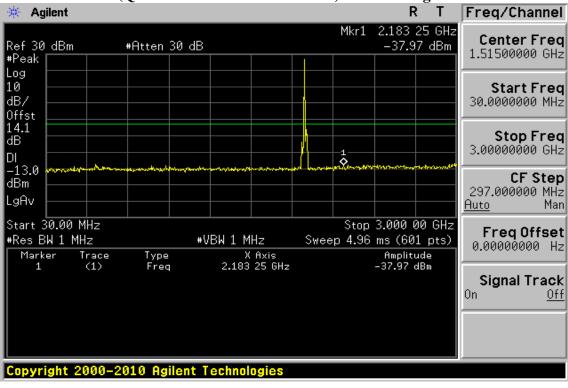


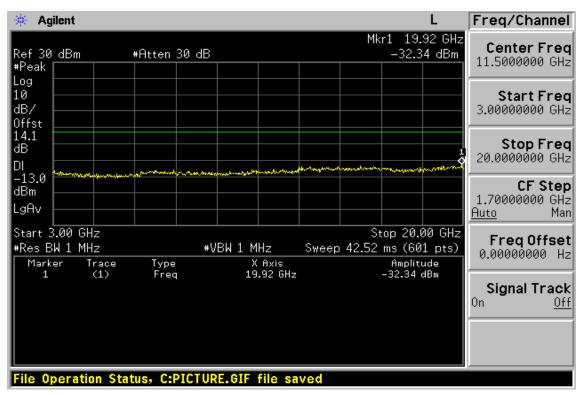
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Out of Band emission at antenna terminals -10MHz BW LTE-Band 2

(OPSK RB Number: 1 Offset: 0)

9275.00

11130.00

12985.00

14840.00

16695.00 18550.00

19460.00

(QI SIX RD I (uniber: I Offset: 0)					
Fundamental Frequency Operation Mode		:1855.0 MHz	Engin	Engineer	
Operation Mo	ue	:TX Low			
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3710.00	Н		-13.00	
	5565.00	Н		-13.00	
	7420.00	Н		-13.00	

-33.36

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

20.36

Note :	"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.
	"" : denotes Noise Floor.

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Fundamental Frequency Operation Mode	:1880.0 MHz :TX Mid	Engir	:Nick	
Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
<30	S		-13.00	
30-1000	S		-13.00	
3760.00	Н		-13.00	
5640.00	Н		-13.00	
7520.00	Н		-13.00	
9400.00	Н		-13.00	
11280.00	Н		-13.00	
13160.00	Н		-13.00	
15040.00	Н		-13.00	
16920.00	Н		-13.00	
18800.00	Н		-13.00	
19660.00	S	-32.3	-13.00	19.30

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

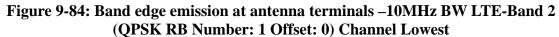
Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 266 of 471

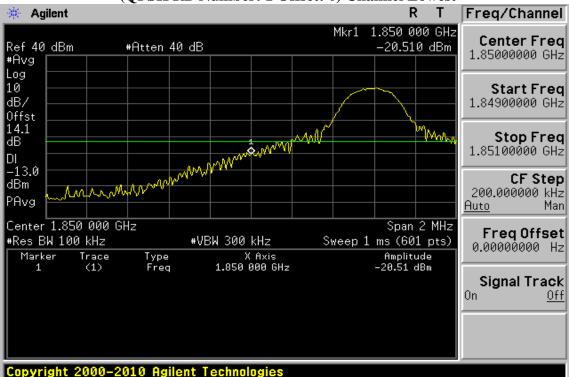
Fundamental Operation Mc	1 2	:1905.0 MHz :TX High	Engin	leer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	-2.0	S		12.00	
	<30 30-1000	S S		-13.00 -13.00	
	3810.00	Н		-13.00	
	5715.00	Н		-13.00	
	7620.00	Н		-13.00	
	9525.00	Н		-13.00	
	11430.00	Н		-13.00	
	13335.00	Н		-13.00	
	15240.00	Н		-13.00	
	17145.00	Н		-13.00	
	19050.00	Н		-13.00	
	19920.00	S	-32.34	-13.00	19.34

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

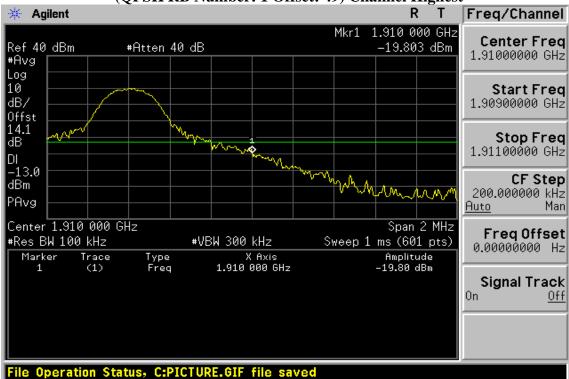
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Band edge emission at antenna terminals -10MHz BW LTE-Band 2

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 49) Test Mode 10MHz BW LTE-Band 2 Engineer :Nick Safe Reading Freq. Limit Margin dBm MHz dBm dB

1850.000	-25.51	-13.00	12.51
1910.000	-19.8	-13.00	6.80

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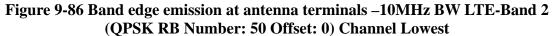
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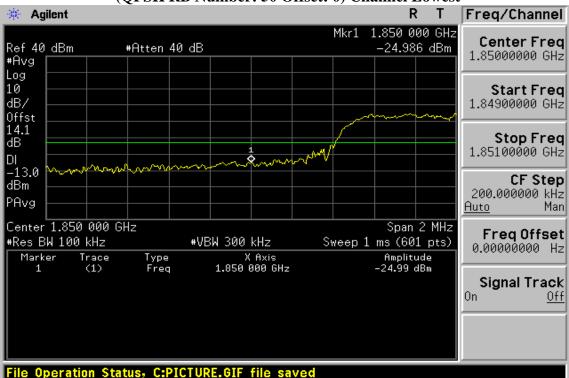
f (886-2) 2298-0488

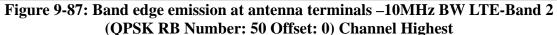
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	

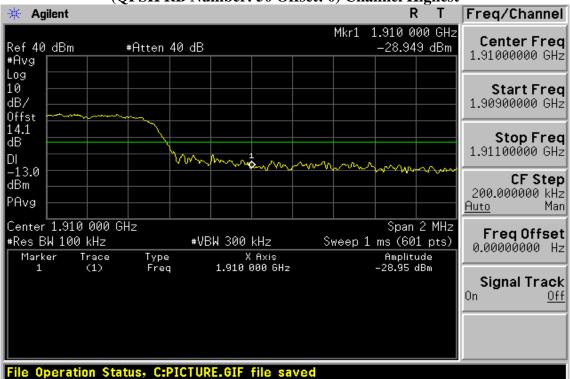
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Band edge emission at antenna terminals -10MHz BW LTE-Band 2

(QPSK RB Number: 50 Offset: 0)

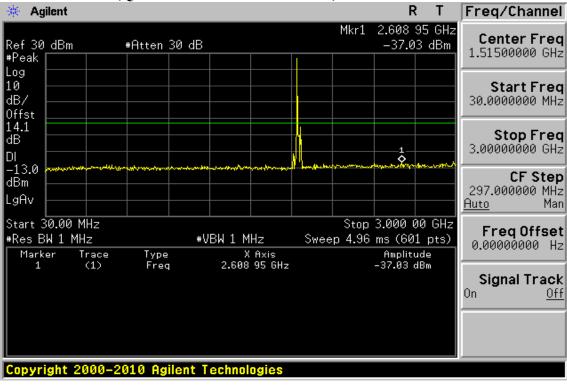
Test Mode	10MHz BV	V LTE-Band 2	Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	1850.000 1910.000	-24.99 -28.95	-13.00 -13.00	11.99 15.95	

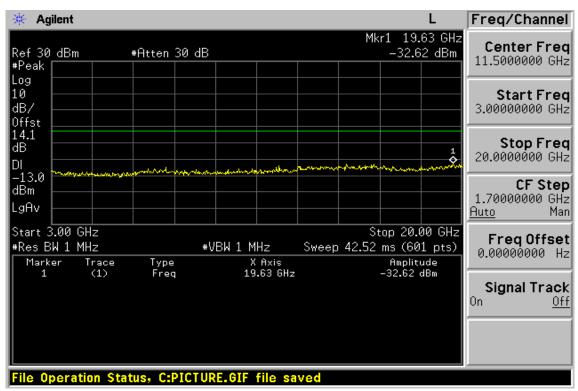
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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	



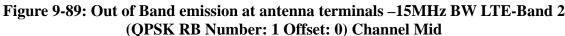


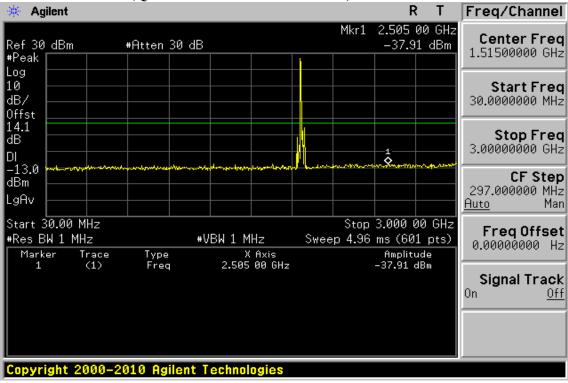


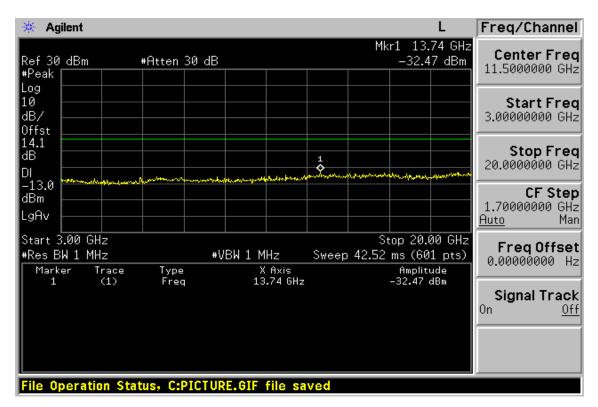


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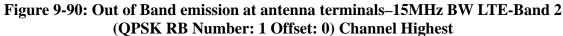


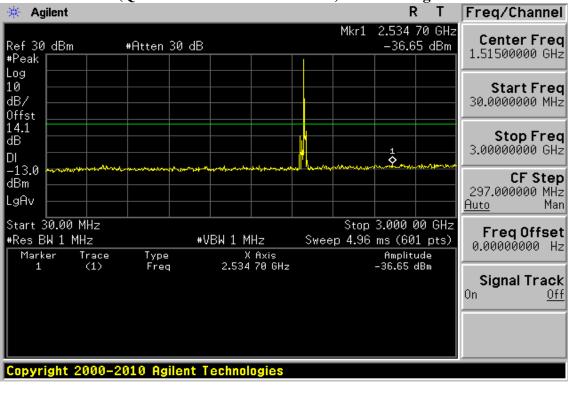


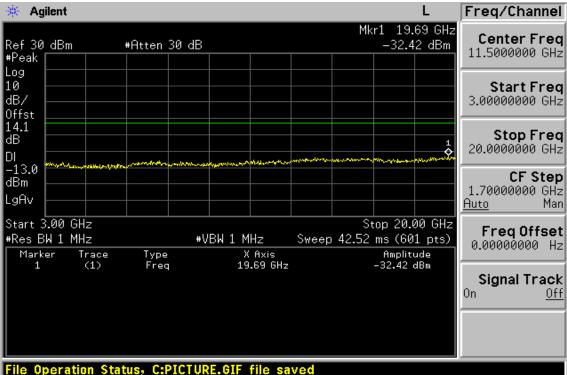


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dB

--

19.62

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

Out of Band emission at antenna terminals -15MHz BW LTE-Band 2

S

S

Η

Η

Η

Η

Η

Η

Η

Η

Η

S

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.

(QPSK RB Number: 1 Offset: 0)

<30

30-1000

3714.00

5571.00

7428.00

9285.00

11142.00

12999.00

14856.00

16713.00 18570.00

19630.00

Note :

Fundamental Frequency Operation Mode	:1857.5 MHz :TX Low	Engine	eer	:Nick
Freq.	Note	Reading	Limit	Safe
(MHz)	F/H/E/S	dBm	dBm	Margin

-32.62

··	denotes Noise Floor.		

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FCC ID: PY7-PM0855

Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 275 of 471

Fundamental Frequ Operation Mode	iency	:1880.0 MHz :TX Mid	Engir	neer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
3	0-1000	S		-13.00	
3	760.00	Н		-13.00	
5	640.00	Н		-13.00	
7	520.00	Н		-13.00	
9	400.00	Н		-13.00	
1	1280.00	Н		-13.00	
1.	3160.00	Н		-13.00	
1.	3740.00	S	-32.47	-13.00	19.47
1:	5040.00	Н		-13.00	
10	6920.00	Н		-13.00	
15	8800.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



FCC ID: PY7-PM0855

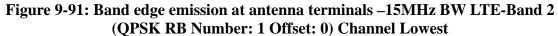
Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 276 of 471

Fundamental Operation Mc	1 2	:1902.5 MHz :TX High	Engin	ieer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<20	S		-13.00	
	<30 30-1000	S		-13.00	
	3805.00	Н		-13.00	
	5707.50	Н		-13.00	
	7610.00	Н		-13.00	
	9512.50	Н		-13.00	
	11415.00	Н		-13.00	
	13317.50	Н		-13.00	
	15220.00	Н		-13.00	
	17122.50	Н		-13.00	
	19025.00	Н		-13.00	
	19690.00	S	-32.42	-13.00	19.42

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

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Band edge emission at antenna terminals -15MHz BW LTE-Band 2

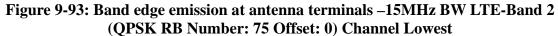
(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 74) Test Mode 15MHz BW LTE-Band 2 Engineer :Nick Safe Freq. Reading Limit Margin MHz dBm dBm

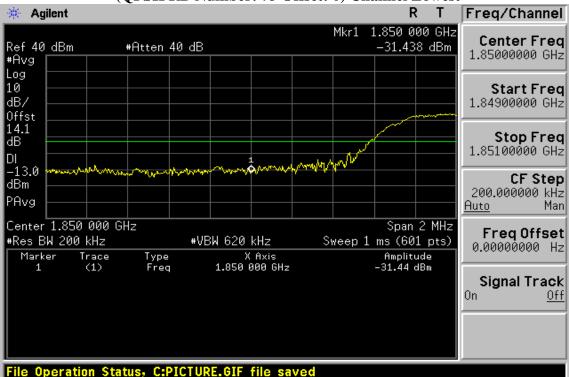
			dB
1850.000	-23.60	-13.00	10.60
1910.000	-17.76	-13.00	4.76

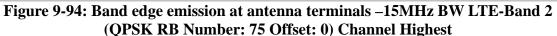
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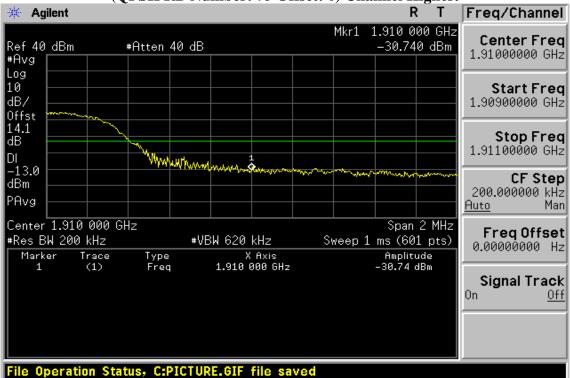
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Band edge emission at antenna terminals -15MHz BW LTE-Band 2

(QPSK RB Number: 75 Offset: 0)

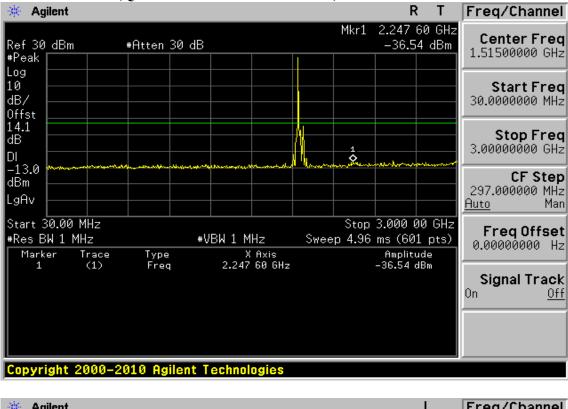
Test Mode	15MHz BV	W LTE-Band 2	Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	1850.000 1910.000	-31.44 -30.74	-13.00 -13.00	18.44 17.74	

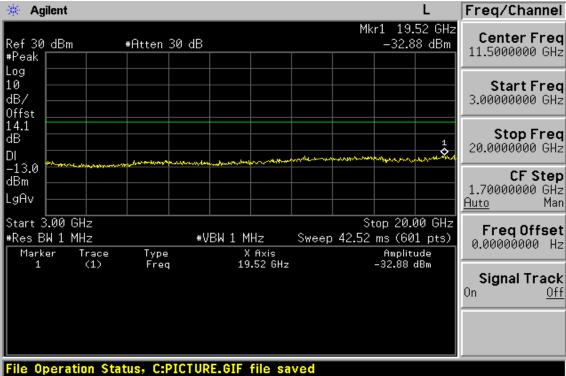
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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	





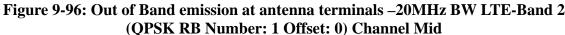


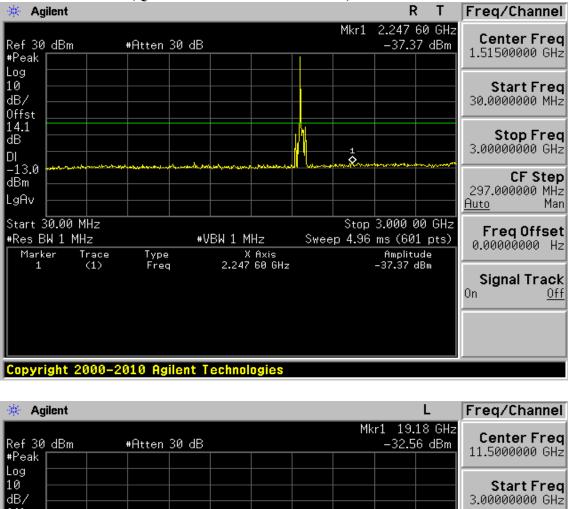


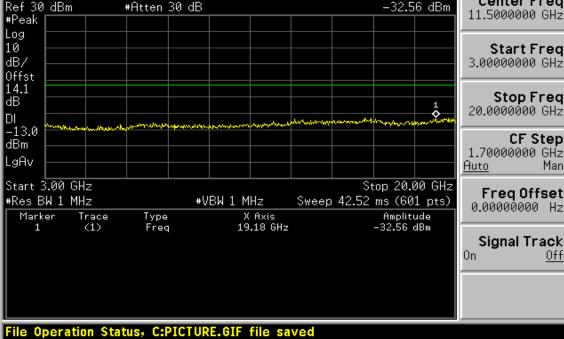
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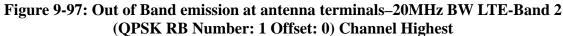


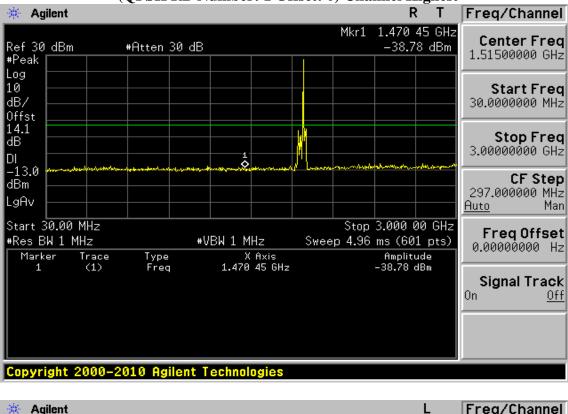


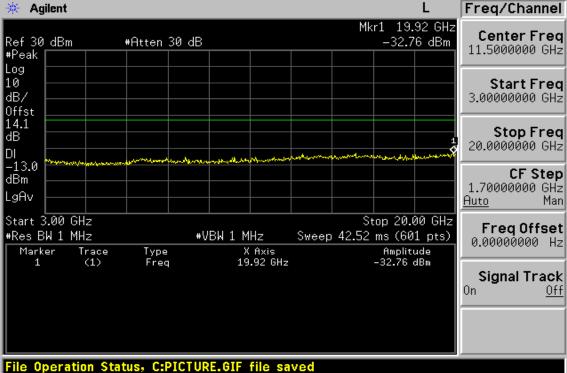


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Out of Band emission at antenna terminals -20MHz BW LTE-Band 2

(OPSK RB Number: 1 Offset: 0)

7440.00

9300.00

11160.00

13020.00

14880.00

16740.00 18600.00

19520.00

Fundamental Frequency Operation Mode		:1860.0 MHz :TX Low	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3720.00	Н		-13.00	
	5580.00	Н		-13.00	

-32.88

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

19.88

Note :	"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency.
	"" : denotes Noise Floor.

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Fundamental Frequency Operation Mode		:1880.0 MHz Engineer :TX Mid		neer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3760.00	Н		-13.00	
	5640.00	Н		-13.00	
	7520.00	Н		-13.00	
	9400.00	Н		-13.00	
	11280.00	Н		-13.00	
	13160.00	Н		-13.00	
	15040.00	Н		-13.00	
	16920.00	Н		-13.00	
	18800.00	Н		-13.00	
	19180.00	S	-32.56	-13.00	19.56

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



FCC ID: PY7-PM0855

Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 286 of 471

Fundamental Frequency Operation Mode		:1900MHz :TX High	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	3800.00	Н		-13.00	
	5700.00	Н		-13.00	
	7600.00	Н		-13.00	
	9500.00	Н		-13.00	
	11400.00	Н		-13.00	
	13300.00	Н		-13.00	
	15200.00	Н		-13.00	
	17100.00	Н		-13.00	
	19000.00	Н		-13.00	
	19920.00	S	-32.76	-13.00	19.76

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

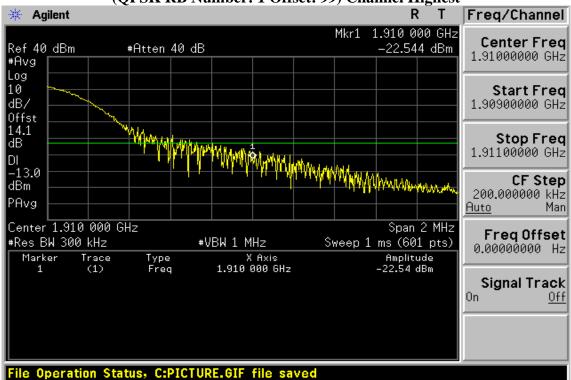
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:Nick

Band edge emission at antenna terminals –20MHz BW LTE-Band 2

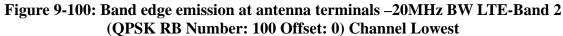
(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 99) Test Mode 20MHz BW LTE-Band 2 Engineer

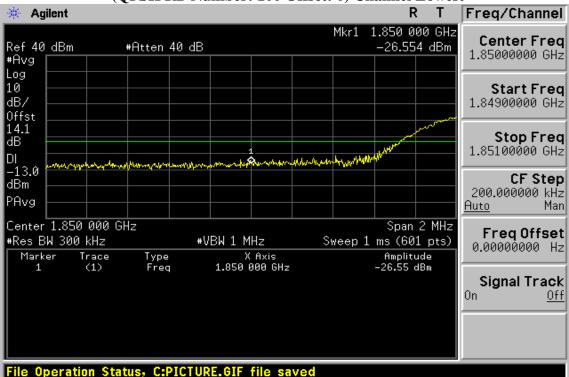
> Safe Reading Freq. Limit Margin MHz dBm dBm dB -19.88-13.006.88 1850.000 1910.000 -22.54 9.54 -13.00

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

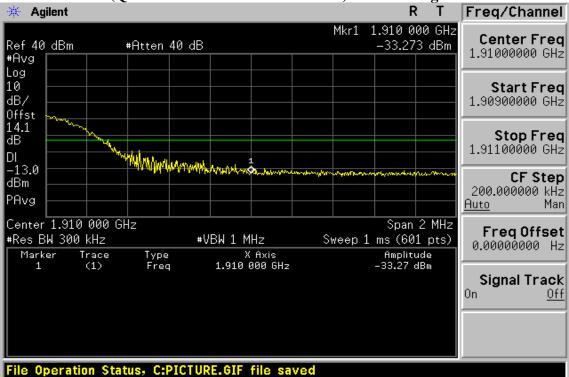
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Band edge emission at antenna terminals -20MHz BW LTE-Band 2

(QPSK RB Number: 100 Offset: 0)

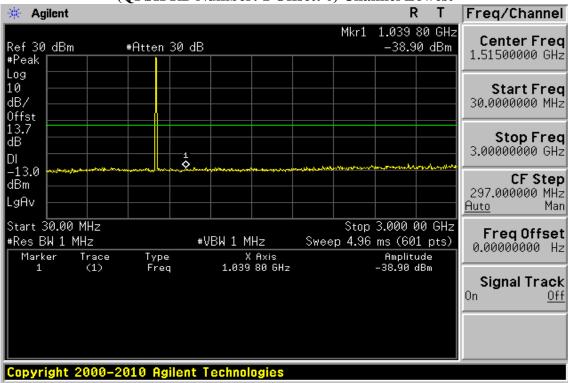
Test Mode	20MHz BV	20MHz BW LTE-Band 2		:Nicl	
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	1850.000 1910.000	-26.55 -33.27	-13.00 -13.00	13.55 20.27	

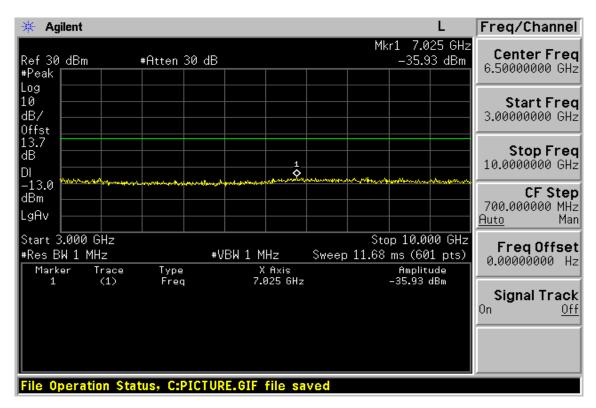
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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	







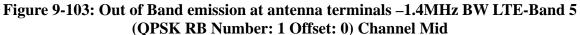


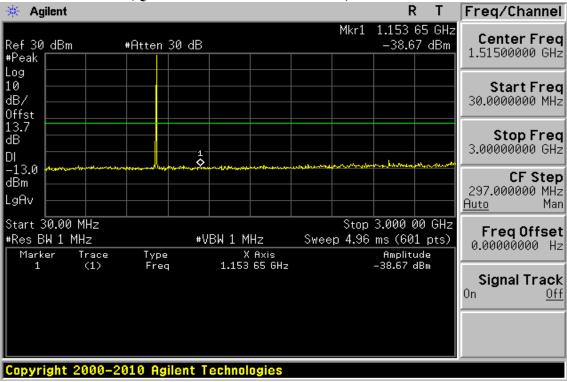
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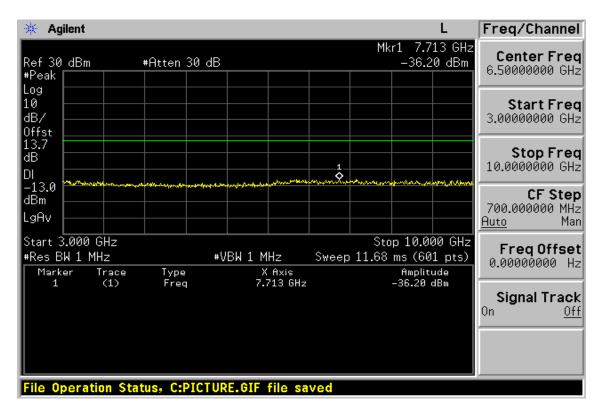
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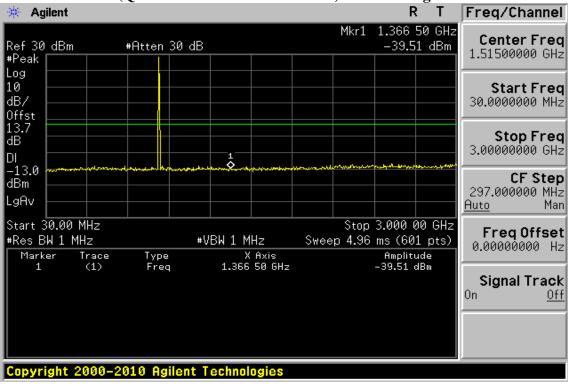


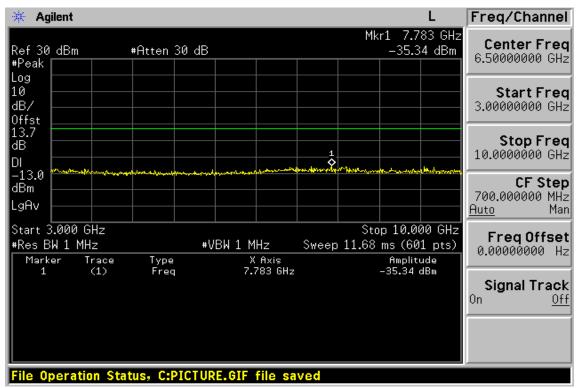


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Out of Band emission at antenna terminals -1.4MHz BW LTE-Band 5

(QPSK RB Number: 1 Offset: 0)

1649.40

2474.10

3298.80

4123.50

4948.20

5772.90

6597.60

7025.00 7422.30

8247.00

Ν

Fundamental Frequency Operation Mode		:824.7 MHz En :TX Low		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1649.40	Н		-13.00	

-35.93

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

22.93

lote :	"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.	
	"" : denotes Noise Floor.	

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Fundamental Frequency Operation Mode		:836.5 MHz Engineer :TX Mid		neer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.00	Н		-13.00	
	2509.50	Н		-13.00	
	3346.00	Н		-13.00	
	4182.50	Н		-13.00	
	5019.00	Н		-13.00	
	5855.50	Н		-13.00	
	6692.00	Н		-13.00	
	7528.50	Н		-13.00	
	7713.00	S	-36.2	-13.00	23.20
	8365.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

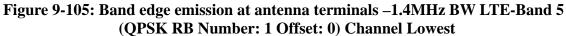
Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 296 of 471

Fundamental Frequency Operation Mode		:848.3 MHz Engineer :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1696.60	Н		-13.00	
	2544.90	Н		-13.00	
	3393.20	Н		-13.00	
	4241.50	Н		-13.00	
	5089.80	Н		-13.00	
	5938.10	Н		-13.00	
	6786.40	Н		-13.00	
	7634.70	Н		-13.00	
	7783.00	S	-35.34	-13.00	22.34
	8483.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "": denotes Spurious Freque

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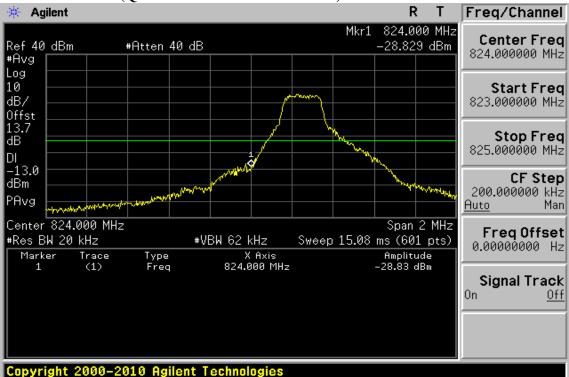
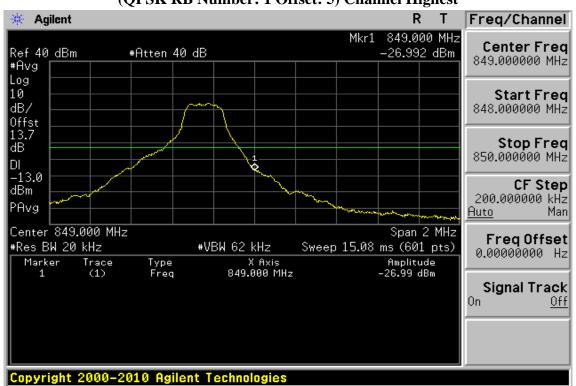


Figure 9-106: Band edge emission at antenna terminals –1.4MHz BW LTE-Band 5 (OPSK RB Number: 1 Offset: 5) Channel Highest



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Band edge emission at antenna terminals -1.4MHz BW LTE-Band 5

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 5)

1.4MHz BW LTE-Band 5 Test Mode Engineer :Nick Safe Reading Freq. Limit

MHz	dBm	dBm	dB
824.000	-28.83	-13.00	15.83
849.000	-26.99	-13.00	13.99

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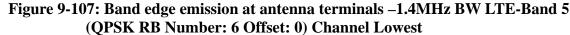
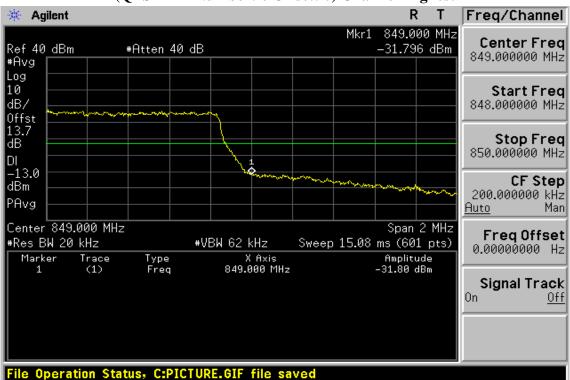




Figure 9-108: Band edge emission at antenna terminals –1.4MHz BW LTE-Band 5 (QPSK RB Number: 6 Offset: 0) Channel Highest



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Band edge emission at antenna terminals -1.4MHz BW LTE-Band 5

(QPSK RB Number: 6 Offset: 0)

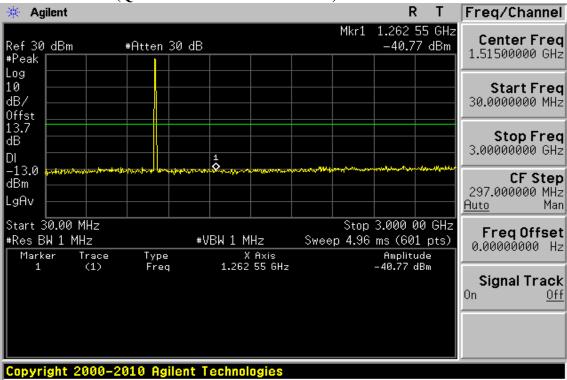
Test Mode	1.4MHz B	1.4MHz BW LTE-Band 5			:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	824.000 849.000	-32.26 -31.8	-13.00 -13.00	19.26 18.80	

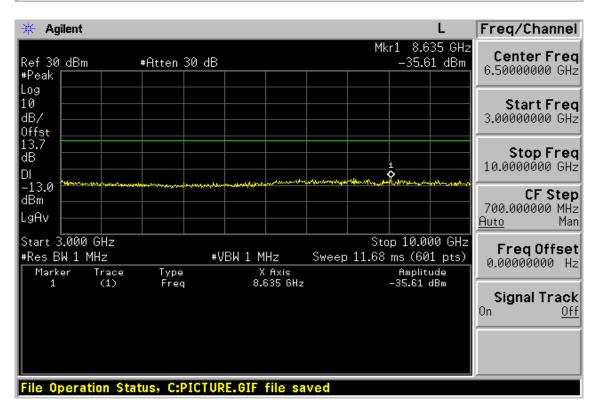
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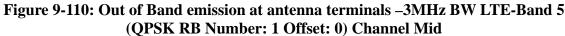


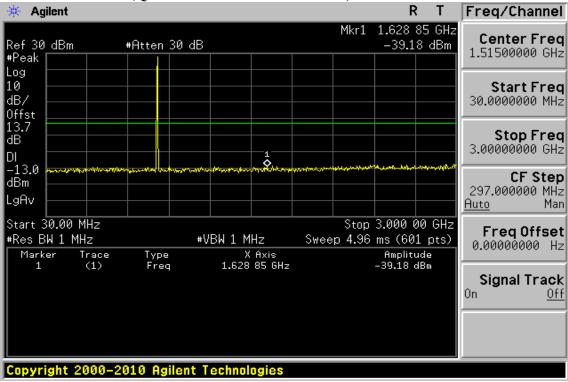


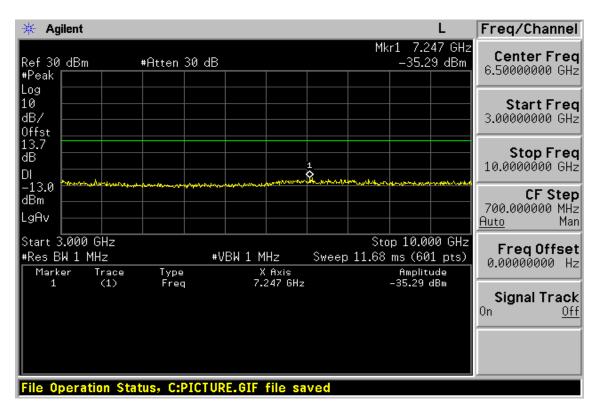


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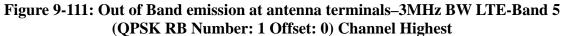


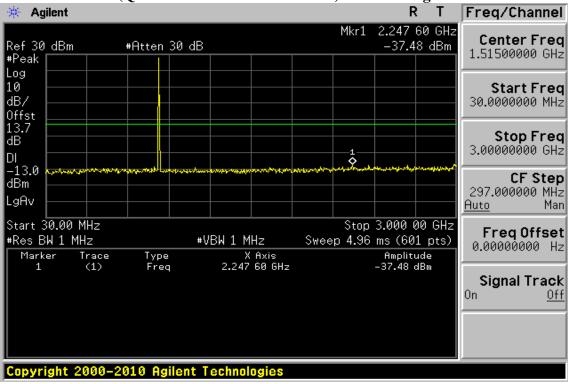


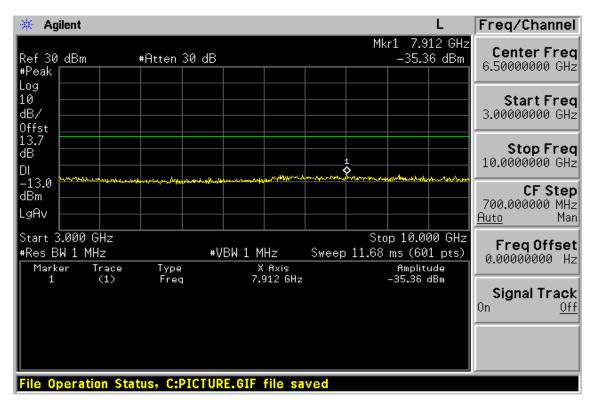




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Out of Band emission at antenna terminals -3MHz BW LTE-Band 5

(OPSK RB Number: 1 Offset: 0)

4953.00

5778.50

6604.00

7429.50 8255.00

8635.00

Fundamental Frequency Operation Mode		:825.5 MHz :TX Low	Engineer		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1651.00	Н		-13.00	
	2476.50	Н		-13.00	
	3302.00	Н		-13.00	
	4127.50	Н		-13.00	

-35.61

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

22.61

Note :	"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.
	"" : denotes Noise Floor.

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Fundamental Operation Mo		:836.5 MHz :TX Mid	Engin	leer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.00	Н		-13.00	
	2509.50	Н		-13.00	
	3346.00	Н		-13.00	
	4182.50	Н		-13.00	
	5019.00	Н		-13.00	
	5855.50	Н		-13.00	
	6692.00	Н		-13.00	
	7247.00	S	-35.29	-13.00	22.29
	7528.50	Н		-13.00	
	8365.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 306 of 471

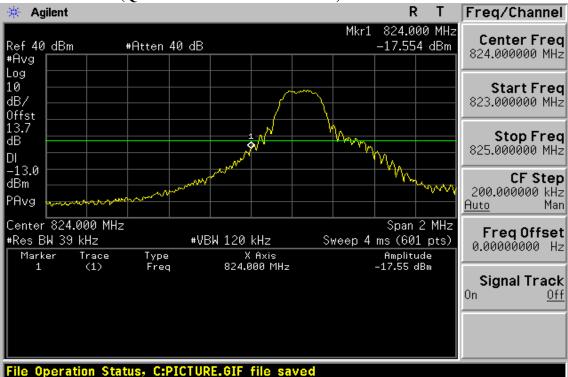
Fundamental Dependent	1 0	:825.3 MHz :TX High	Engi	neer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1650.60	Н		-13.00	
	2475.90	Н		-13.00	
	3301.20	Н		-13.00	
	4126.50	Н		-13.00	
	4951.80	Н		-13.00	
	5777.10	Н		-13.00	
	6602.40	Н		-13.00	
	7427.70	Н		-13.00	
	7912.00	S	-35.36	-13.00	22.36
	8253.00	Н		-13.00	

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

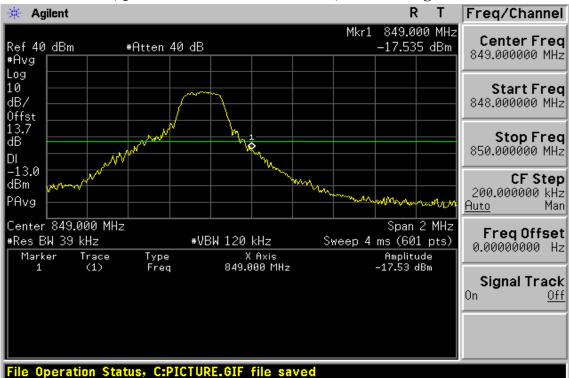
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Band edge emission at antenna terminals -3MHz BW LTE-Band 5

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 14) Test M

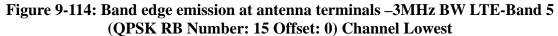
Mode	3MHz BW	LTE-Band 5	Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	824.000	-17.55	-13.00	4.55	
	849.000	-17.53	-13.00	4.53	

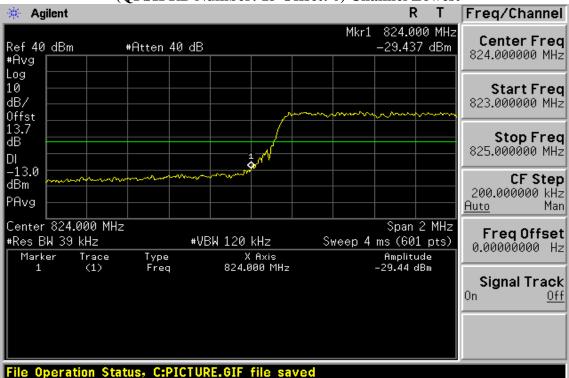
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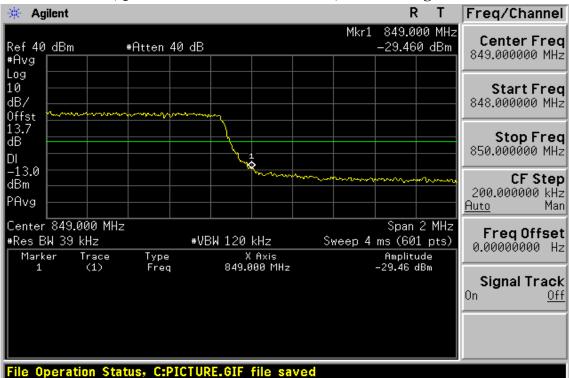
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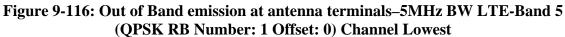
Band edge emission at antenna terminals -3MHz BW LTE-Band 5

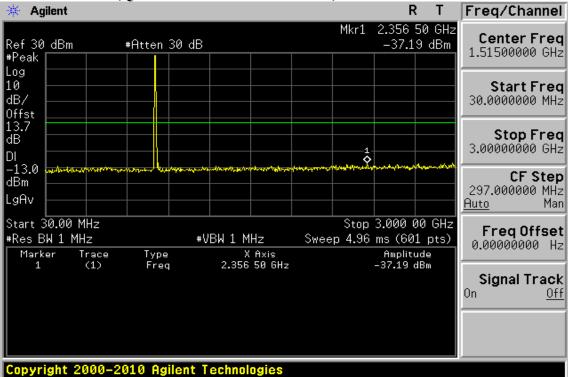
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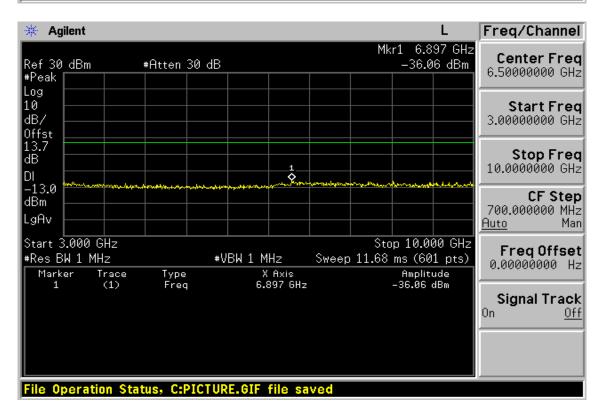
Test Mode	3MHz BW	3MHz BW LTE-Band 5			:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	824.000 849.000	-29.44 -29.46	-13.00 -13.00	16.44 16.46	

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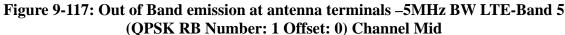


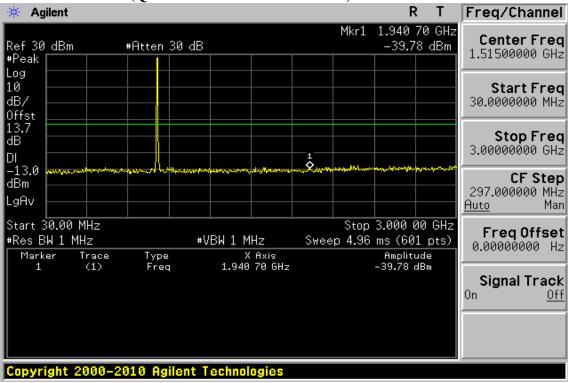


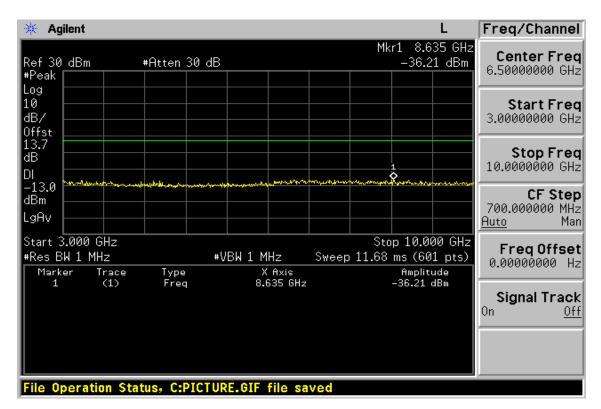
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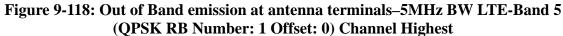


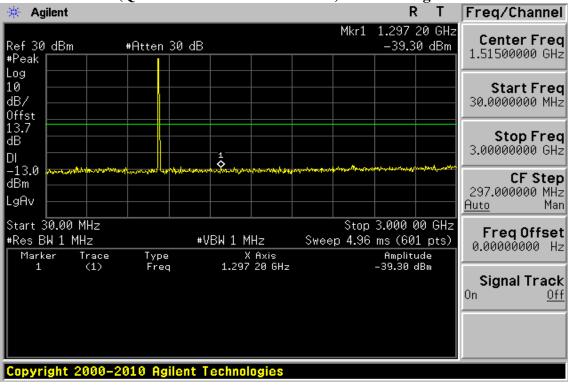


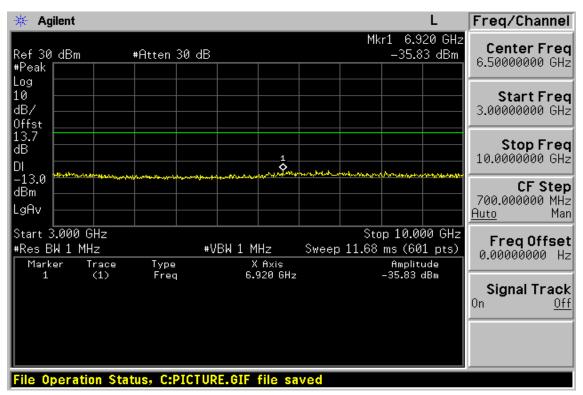


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Out of Band emission at antenna terminals -5MHz BW LTE-Band 5

(OPSK RB Number: 1 Offset: 0)

(QPSK RB Number: 1 Fundamental Frequency Operation Mode	,	:826.5 MHz Engineer		:Nick
Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
<30	S		-13.00	
30-100	0 S		-13.00	
1653.0	0 Н		-13.00	
2479.5	0 Н		-13.00	
3306.0	0 Н		-13.00	
4132.5	0 Н		-13.00	
4959.0	0 Н		-13.00	
5785.5	0 Н		-13.00	
6612.0	0 Н		-13.00	
6897.0	0 S	-36.06	-13.00	23.06
7438.5	0 Н		-13.00	
8265.0	0 Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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N T · 1

Fundamental Frequency Operation Mode		:836.5 MHz Engineer :TX Mid		neer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.00	Н		-13.00	
	2509.50	Н		-13.00	
	3346.00	Н		-13.00	
	4182.50	Н		-13.00	
	5019.00	Н		-13.00	
	5855.50	Н		-13.00	
	6692.00	Н		-13.00	
	7528.50	Н		-13.00	
	8365.00	Н		-13.00	
	8635.00	S	-36.21	-13.00	23.21

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 316 of 471

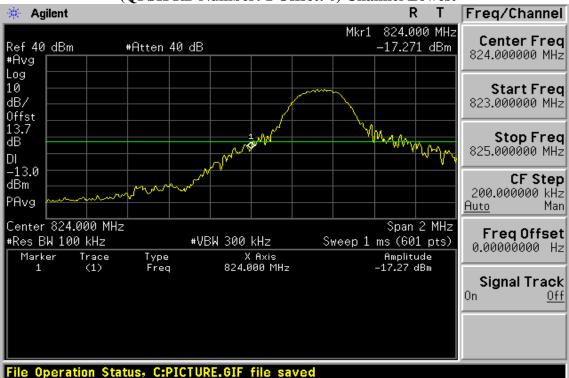
Fundamental Operation Mo		:846.5 MHz :TX High	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2.0	S		12.00	
	<30 30-1000	S S		-13.00 -13.00	
	1693.00	Н		-13.00	
	2539.50	Н		-13.00	
	3386.00	Н		-13.00	
	4232.50	Н		-13.00	
	5079.00	Н		-13.00	
	5925.50	Н		-13.00	
	6772.00	Н		-13.00	
	6920.00	S	-35.83	-13.00	22.83
	7618.50	Н		-13.00	
	8465.00	Н		-13.00	

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

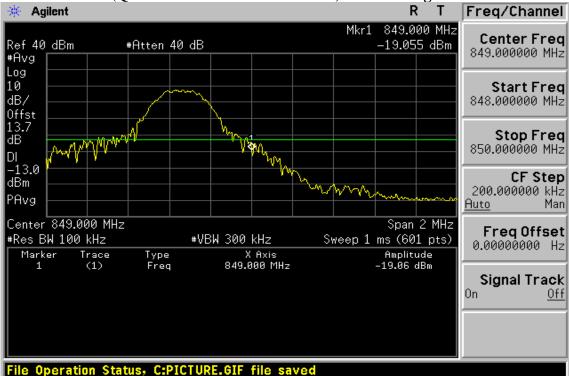
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Band edge emission at antenna terminals -5MHz BW LTE-Band 5

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 24)

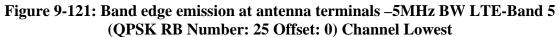
Test Mode	5MHz BW	LTE-Band 5	Engineer		:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	824.000 849.000	-17.27 -19.06	-13.00 -13.00	4.27 6.06	

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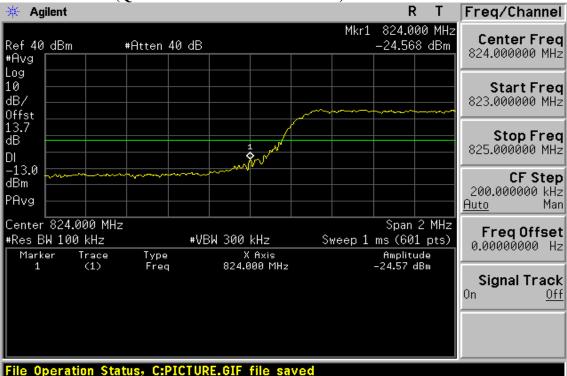
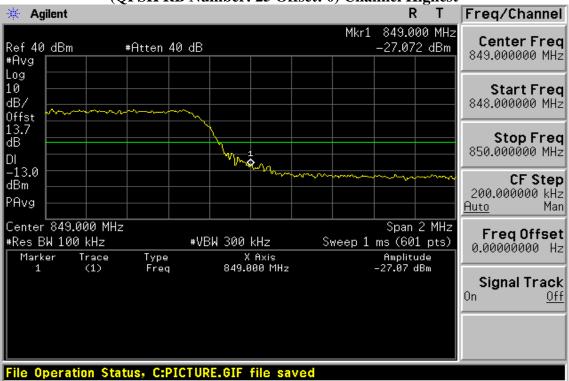


Figure 9-122: Band edge emission at antenna terminals –5MHz BW LTE-Band 5 (QPSK RB Number: 25 Offset: 0) Channel Highest



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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	



Band edge emission at antenna terminals -5MHz BW LTE-Band 5

(QPSK RB Number: 25 Offset: 0)

Test Mode	5MHz BW	5MHz BW LTE-Band 5		Engineer	
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	_
	824.000 849.000	-24.57 -27.07	-13.00 -13.00	11.57 14.07	

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

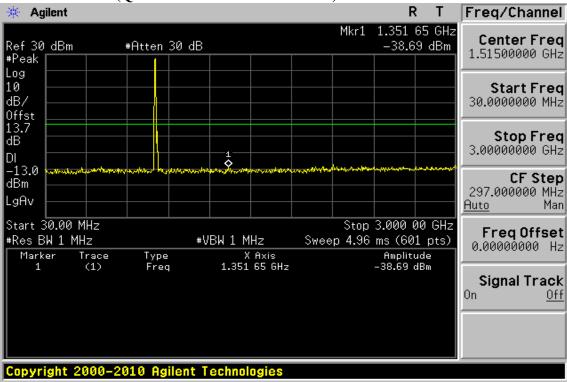
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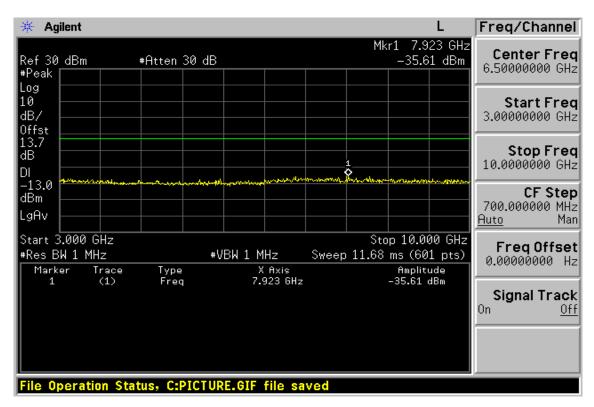
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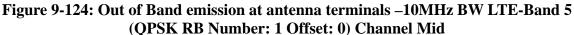


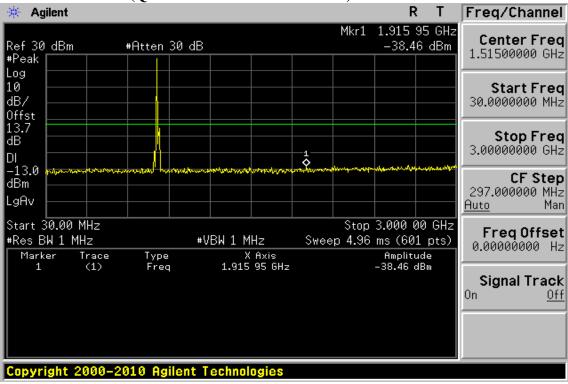


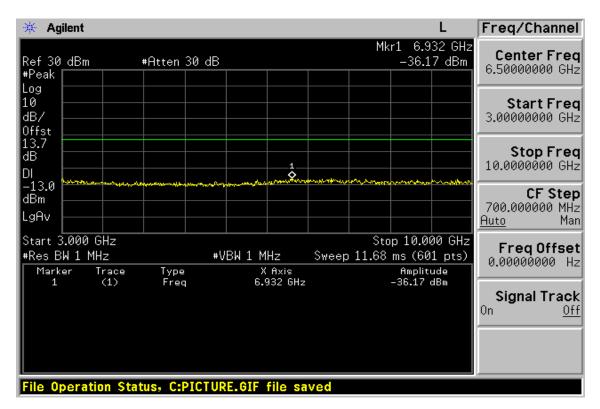




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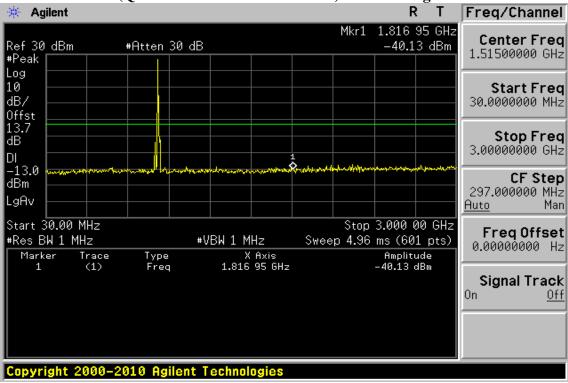


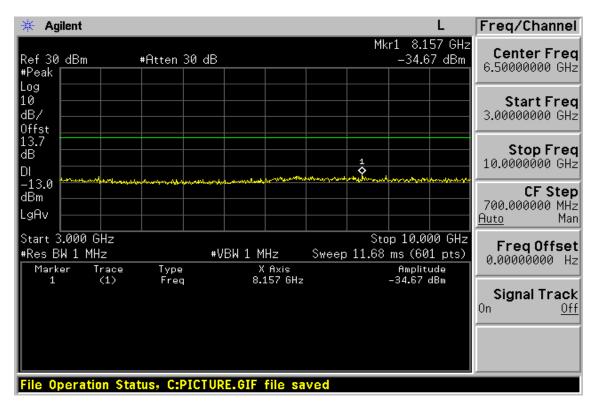
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Out of Band emission at antenna terminals -10MHz BW LTE-Band 5

(OPSK RB Number: 1 Offset: 0)

4974.00

5803.00

6632.00

7461.00

7923.00

8290.00

Fundamental Frequency Operation Mode		:829.0 MHz :TX Low	Engin	eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	• •	C		12.00	
	<30	S		-13.00	
	30-1000	S		-13.00	
	1658.00	Н		-13.00	
	2487.00	Н		-13.00	
	3316.00	Н		-13.00	
	4145.00	Н		-13.00	

-35.61

-13.00

-13.00

-13.00

-13.00

-13.00

-13.00

22.61

Note :	"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.
	"" : denotes Noise Floor.

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FCC ID: PY7-PM0855

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Fundamental Frequency Operation Mode		:836.5 MHz E :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	<30	S		-13.00	
	30-1000	S		-13.00	
	1673.00	Н		-13.00	
	2509.50	Н		-13.00	
	3346.00	Н		-13.00	
	4182.50	Н		-13.00	
	5019.00	Н		-13.00	
	5855.50	Н		-13.00	
	6692.00	Н		-13.00	
	6932.00	S	-36.17	-13.00	23.17
	7528.50	Н		-13.00	
	8365.00	Н		-13.00	

"H": denotes Harmonic Frequency. "S": denotes Spurious Frequency. Note : "---" : denotes Noise Floor.

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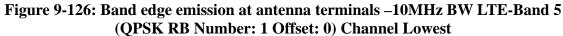
Fundamental Frequency Operation Mode		:844.0 MHz En :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
		C		12.00	
	<30 30-1000	S S		-13.00 -13.00	
	1688.00	H		-13.00	
	2532.00	Н		-13.00	
	3376.00	Н		-13.00	
	4220.00	Н		-13.00	
	5064.00	Н		-13.00	
	5908.00	Н		-13.00	
	6752.00	Н		-13.00	
	7596.00	Н		-13.00	
	8157.00	S	-34.67	-13.00	21.67
	8440.00	Н		-13.00	

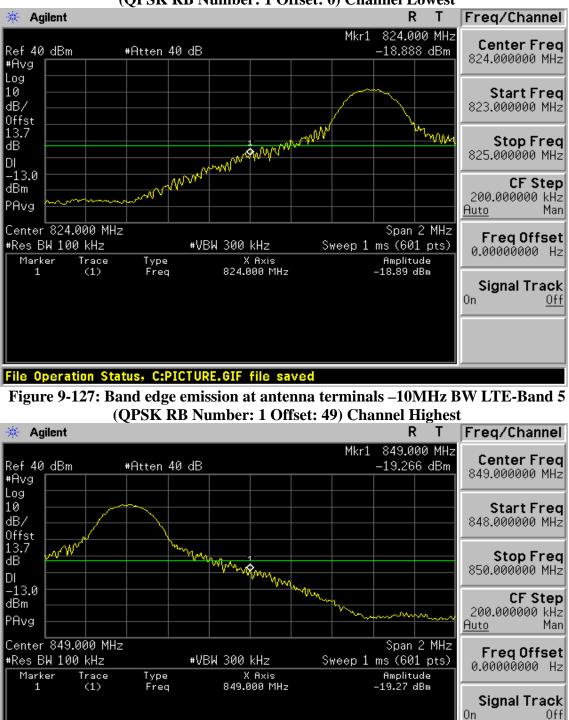
"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. ": denotes Spurious Freque Note :

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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	



:Nick

Band edge emission at antenna terminals -10MHz BW LTE-Band 5

(QPSK RB Number: 1 Offset: 0) (QPSK RB Number: 1 Offset: 49) Test Mode 10MHz BW LTE-Band 5 Engineer

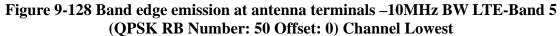
> Safe Reading Freq. Limit Margin dBm MHz dBm dB -18.89 -13.005.89 824.000 849.000 -19.27 -13.00 6.27

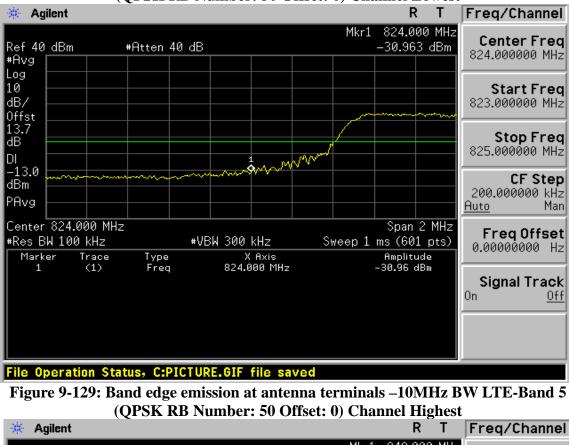
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

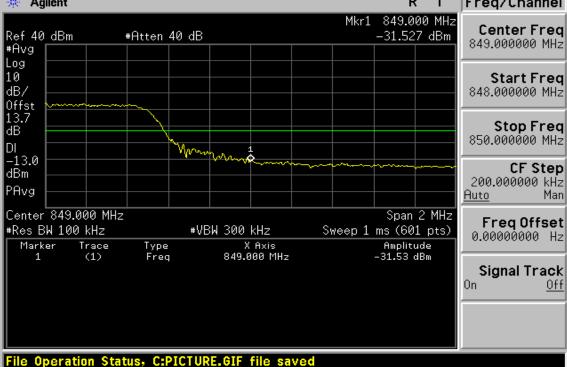
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it is unlawful and orienders may be prosecuted to the fullest extent of the law.									
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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com						









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Band edge emission at antenna terminals -10MHz BW LTE-Band 5

(QPSK RB Number: 50 Offset: 0)

Test Mode	10MHz BV	10MHz BW LTE-Band 5			:Nick
	Freq. MHz	Reading dBm	Limit dBm	Safe Margin dB	
	824.000 849.000	-30.96 -31.53	-13.00 -13.00	17.96 18.53	

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S Taiwan Ltd.



10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

10.1. Standard Applicable:

According to FCC §2.1053,

FCC 22.917(a), 24.238(a) , the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm).

10.2. EUT Setup (Block Diagram of Configuration):

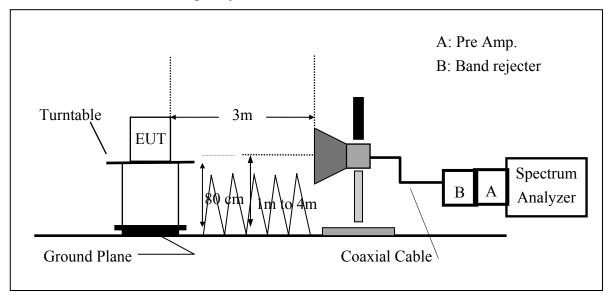
Radiated Emission Test Set-Up, Frequency Below 1000MHz

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台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com





Radiated Emission Test Set-UP Frequency Over 1 GHz

10.3. Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP= S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)

10.4. Measurement Equipment Used:

Refer to section 2.4 in this report

10.5. Measurement Result:

Refer to attach tabular data sheets.

For radiated plot of test data, please refer to Appendix 1, page 436

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Radiated Spurious Emission Measurement Result: GSM 850 Mode

P =			
Operation Band	:GSM 850	Test Date	:2014-11-26
ARFCN	:CH 128	Temp./Humi.	:23 deg_C / 56 RH
Fundamental Frequency	:824.2 MHz	Engineer	:Curry
Operation Mode	:TX LOW	-	-
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
41.64	S	-65.70	-52.86	-12.00	-0.84	-13.00	-52.70
89.17	S	-71.63	-70.02	-0.43	-1.18	-13.00	-58.63
338.46	S	-71.77	-73.80	3.99	-1.95	-13.00	-58.77
655.65	S	-66.74	-67.98	3.93	-2.69	-13.00	-53.74
769.14	S	-45.01	-45.82	3.70	-2.89	-13.00	-32.01
938.89	S	-59.62	-59.68	3.38	-3.32	-13.00	-46.62
1648.40	Н	-62.08	-61.22	3.56	-4.42	-13.00	-49.08
2472.60	Н	-56.63	-55.36	4.18	-5.45	-13.00	-43.63
3296.80	Н						
4121.00	Н						
4945 20	Н						

4945.20	Н	
5769.40	Н	
6593.60	Н	
7417.80	Н	
8242.00	Н	

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor..

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 850 :CH 128 :824.2 MHz :TX LOW	Te	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Me	Measurement Antenna Pol.			TAL	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB	
41.64	S	-64.92	-52.08	-12.00	-0.84	-13.00	-51.92	
203.63	S	-76.45	-78.74	3.81	-1.53	-13.00	-63.45	
447.10	S	-69.17	-70.82	3.85	-2.21	-13.00	-56.17	
636.25	S	-70.28	-71.47	3.86	-2.67	-13.00	-57.28	
769.14	S	-49.75	-50.56	3.70	-2.89	-13.00	-36.75	
939.86	S	-59.36	-59.42	3.38	-3.32	-13.00	-46.36	
1648.40	Н	-62.08	-61.22	3.56	-4.42	-13.00	-49.08	
2472.60	Н	-52.14	-50.87	4.18	-5.45	-13.00	-39.14	
3296.80	Н							
4121.00	Н							
4945.20	Н							
5769.40	Н							
6593.60	Н							
7417.80	Н							
8242.00	Н							

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 850 :CH 190 :836.6 MHz :TX MID	Ten	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Mea	asurement Ante	nna Pol.	:VERTICAL	1	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB	
44.55	S	-68.02	-55.25	-11.87	-0.90	-13.00	-55.02	
318.09	S	-71.58	-73.52	3.85	-1.91	-13.00	-58.58	
530.52	S	-70.46	-71.94	3.91	-2.44	-13.00	-57.46	
648.86	S	-65.19	-66.44	3.93	-2.68	-13.00	-52.19	
770.11	S	-45.89	-46.71	3.71	-2.89	-13.00	-32.89	
948.59	S	-62.49	-62.50	3.34	-3.33	-13.00	-49.49	
1673.20	Н	-62.77	-61.81	3.49	-4.45	-13.00	-49.77	
2509.80	Н	-59.32	-58.10	4.28	-5.49	-13.00	-46.32	
3346.40	Н							
4183.00	Н							
5019.60	Н							
5856.20	Н							
6692.80	Н							
7529.40	Н							
8366.00	Н							

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 850 :CH 190 :836.6 MHz :TX MID	Ten	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Me	asurement Ante	nna Pol.	:HORIZON	ΓAL	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB	
44.55	S	-65.88	-53.11	-11.87	-0.90	-13.00	-52.88	
242.43	S	-76.85	-78.47	3.30	-1.68	-13.00	-63.85	
430.61	S	-70.99	-72.73	3.91	-2.16	-13.00	-57.99	
595.51	S	-69.91	-70.97	3.66	-2.61	-13.00	-56.91	
771.08	S	-48.34	-49.15	3.71	-2.89	-13.00	-35.34	
938.89	S	-60.85	-60.91	3.38	-3.32	-13.00	-47.85	
1673.20	Н	-63.92	-62.97	3.49	-4.45	-13.00	-50.92	
2509.80	Н	-54.45	-53.24	4.28	-5.49	-13.00	-41.45	
3346.40	Н							
4183.00	Н							
5019.60	Н							
5856.20	Н							
6692.80	Н							
7529.40	Н							
8366.00	Н							

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 850 :CH 251 :848.8 MHz :TX HIGH	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Me	asurement Ante	nna Pol.	:VERTICAL	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
42.61	S	-67.82	-55.01	-11.96	-0.86	-13.00	-54.82
307.42	S	-71.84	-73.73	3.78	-1.89	-13.00	-58.84
596.48	S	-68.37	-69.42	3.66	-2.61	-13.00	-55.37
776.90	S	-47.30	-48.11	3.71	-2.90	-13.00	-34.30
871.96	S	-60.64	-61.14	3.68	-3.18	-13.00	-47.64
938.89	S	-63.06	-63.12	3.38	-3.32	-13.00	-50.06
1697.60	Н	-62.25	-61.21	3.43	-4.48	-13.00	-49.25
2546.40	Н	-58.09	-56.92	4.37	-5.54	-13.00	-45.09
3395.20	Н						
4244.00	Н						
5092.80	Н						
5941.60	Н						
6790.40	Н						
7639.20	Н						

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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8488.00

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 850 :CH 251 :848.8 MHz :TX HIGH	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	М	Measurement Antenna Pol.			TAL
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
41.64	S	-66.93	-54.09	-12.00	-0.84	-13.00	-53.93
207.51	S	-70.92	-73.19	3.82	-1.54	-13.00	-57.92
449.04	S	-70.25	-71.88	3.85	-2.22	-13.00	-57.25
509.18	S	-70.94	-72.51	3.95	-2.38	-13.00	-57.94
770.11	S	-48.18	-48.99	3.71	-2.89	-13.00	-35.18
939.86	S	-60.32	-60.38	3.38	-3.32	-13.00	-47.32
1697.60	Н	-64.23	-63.19	3.43	-4.48	-13.00	-51.23
2546.40	Н	-57.94	-56.77	4.37	-5.54	-13.00	-44.94
3395.20	Н						
4244.00	Н						
5092.80	Н						
5941.60	Н						
6790.40	Н						
7639.20	Н						

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

Η

8488.00

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Band	:GSM 1900	Test Date	:2014-11-26
ARFCN	:CH 512	Temp./Humi.	:23 deg_C / 56 RH
Fundamental Frequency	:1850.2 MHz	Engineer	:Curry
Operation Mode	:TX LOW		
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
43.58	S	-65.47	-54.83	-9.77	-0.88	-13.00	-52.47
257.95	S	-70.87	-74.50	5.36	-1.74	-13.00	-57.87
335.55	S	-69.62	-73.79	6.12	-1.95	-13.00	-56.62
435.46	S	-69.77	-73.64	6.04	-2.18	-13.00	-56.77
646.92	S	-64.88	-68.27	6.07	-2.68	-13.00	-51.88
773.02	S	-52.05	-55.01	5.86	-2.90	-13.00	-39.05
3700.40	Н	-48.19	-50.51	9.13	-6.80	-13.00	-35.19
5550.60	Н	-40.29	-42.39	10.50	-8.40	-13.00	-27.29
7400.80	Н	-44.51	-46.52	11.80	-9.78	-13.00	-31.51
9251.00	Н						
11101.20	Н						
12951.40	Н						

14801.60	Н	
16651.80	Н	
18502.00	Н	

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 1900 :CH 512 :1850.2 MHz :TX LOW	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry		
EUT Pol.	loue	:H Plane	Me	easurement Ante	nna Pol.	:HORIZONTAL		
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
94.99	S	-73.41	-73.73	1.51	-1.20	-13.00	-60.41	
239.52	S	-68.01	-71.80	5.46	-1.67	-13.00	-55.01	
444.19	S	-68.31	-72.12	6.01	-2.20	-13.00	-55.31	
594.54	S	-66.98	-70.19	5.82	-2.61	-13.00	-53.98	
774.96	S	-54.38	-57.34	5.86	-2.90	-13.00	-41.38	
941.80	S	-64.20	-66.40	5.52	-3.32	-13.00	-51.20	
3700.40	Н	-50.17	-52.50	9.13	-6.80	-13.00	-37.17	
5550.60	Н	-47.60	-49.70	10.50	-8.40	-13.00	-34.60	
7400.80	Н	-46.95	-48.97	11.80	-9.78	-13.00	-33.95	
9251.00	Н							
11101.20	Н							
12951.40	Н							
14801.60	Н							
16651.80	Н							

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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18502.00

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 1900 :CH 661 :1880 MHz :TX MID	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Me	Measurement Antenna Pol.		:VERTICAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
46.49	S	-64.96	-54.64	-9.39	-0.93	-13.00	-51.96
240.49	S	-71.99	-75.75	5.44	-1.67	-13.00	-58.99
447.10	S	-70.86	-74.66	6.00	-2.21	-13.00	-57.86
646.92	S	-64.71	-68.10	6.07	-2.68	-13.00	-51.71
769.14	S	-54.09	-57.06	5.85	-2.89	-13.00	-41.09
942.77	S	-63.70	-65.89	5.52	-3.33	-13.00	-50.70
3760.00	Н	-46.77	-49.08	9.16	-6.85	-13.00	-33.77
5640.00	Н	-44.13	-46.16	10.50	-8.47	-13.00	-31.13
7520.00	Н	-45.13	-47.18	11.92	-9.87	-13.00	-32.13
9400.00	Н						
11280.00	Н						
13160.00	Н						
15040.00	Н						
16920.00	Н						
18800.00	Н						

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 1900 :CH 661 :1880 MHz :TX MID	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Me	asurement Ante	nna Pol.	:HORIZONTAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
87.23	S	-73.59	-73.71	1.27	-1.15	-13.00	-60.59
243.40	S	-67.46	-71.23	5.45	-1.68	-13.00	-54.46
440.31	S	-68.68	-72.52	6.03	-2.19	-13.00	-55.68
641.10	S	-63.44	-66.81	6.04	-2.67	-13.00	-50.44
773.02	S	-55.00	-57.96	5.86	-2.90	-13.00	-42.00
946.65	S	-64.06	-66.23	5.50	-3.33	-13.00	-51.06
3760.00	Н	-54.43	-56.74	9.16	-6.85	-13.00	-41.43
5640.00	Н	-48.03	-50.05	10.50	-8.47	-13.00	-35.03
7520.00	Н	-50.33	-52.38	11.92	-9.87	-13.00	-37.33
9400.00	Н						
11280.00	Н						
13160.00	Н						
15040.00	Н						
16920.00	Н						
18800.00	Н						

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 1900 :CH 810 :1909.8 MHz :TX HIGH	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry		
EUT Pol.		:H Plane	Ν	Measurement Antenna Pol.			:VERTICAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
46.49	S	-65.14	-54.81	-9.39	-0.93	-13.00	-52.14	
244.37	S	-71.57	-75.34	5.46	-1.69	-13.00	-58.57	
378.23	S	-70.91	-75.07	6.19	-2.03	-13.00	-57.91	
575.14	S	-69.23	-72.59	5.91	-2.56	-13.00	-56.23	
772.05	S	-54.51	-57.47	5.86	-2.89	-13.00	-41.51	
939.86	S	-63.71	-65.92	5.53	-3.32	-13.00	-50.71	
3819.60	Н	-46.55	-48.85	9.20	-6.90	-13.00	-33.55	
5729.40	Н	-43.88	-45.83	10.50	-8.54	-13.00	-30.88	
7639.20	Н	-45.47	-47.54	12.01	-9.94	-13.00	-32.47	
9549.00	Н							
11458.80	Н							
13368.60	Н							
15278.40	Н							

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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17188.20 19098.00

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Operation Band ARFCN Fundamental Frequency Operation Mode		:GSM 1900 :CH 810 :1909.8 MHz :TX HIGH	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry		
EUT Pol.		:H Plane	М	Measurement Antenna Pol.			:HORIZONTAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
94.99	S	-71.89	-72.20	1.51	-1.20	-13.00	-58.89	
242.43	S	-67.31	-71.08	5.45	-1.68	-13.00	-54.31	
426.73	S	-68.69	-72.62	6.07	-2.15	-13.00	-55.69	
641.10	S	-64.77	-68.13	6.04	-2.67	-13.00	-51.77	
773.02	S	-53.77	-56.73	5.86	-2.90	-13.00	-40.77	
946.65	S	-64.71	-66.88	5.50	-3.33	-13.00	-51.71	
3819.60	Н	-52.82	-55.12	9.20	-6.90	-13.00	-39.82	
5729.40	Н	-45.84	-47.80	10.50	-8.54	-13.00	-32.84	
7639.20	Н	-49.15	-51.22	12.01	-9.94	-13.00	-36.15	
9549.00	Н							
11458.80	Н							
13368.60	Н							
15278.40	Н							
17188.20	Н							

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

Η

19098.00

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:WCDMA B2	Test Date	:2014-11-26
ARFCN	:CH 9262	Temp./Humi.	:23 deg_C / 56 RH
Fundamental Frequency	:1852.4 MHz	Engineer	:Curry
Operation Mode	:TX LOW		
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.94	S	-53.59	-41.07	-11.72	-0.80	-13.00	-40.59
282.20	S	-70.71	-74.52	5.63	-1.82	-13.00	-57.71
431.58	S	-70.09	-73.98	6.06	-2.17	-13.00	-57.09
648.86	S	-64.89	-68.29	6.08	-2.68	-13.00	-51.89
773.99	S	-53.14	-56.10	5.86	-2.90	-13.00	-40.14
953.44	S	-64.28	-66.22	5.28	-3.34	-13.00	-51.28
3704.80	Н	-55.15	-57.47	9.13	-6.80	-13.00	-42.15
5557.20	Н	-52.52	-54.62	10.50	-8.41	-13.00	-39.52
7409.60	Н	-45.42	-47.44	11.81	-9.79	-13.00	-32.42
9262.00	Н						
11114.40	Н						

11114.40	П	
12966.80	Н	
14819.20	Н	
16671.60	Н	
18524.00	Н	

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B2 :CH 9262 :1852.4 MHz :TX LOW		Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.	lode	:H Plane		Measurement Anter	nna Pol.	:HORIZON	ΓAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
			Output Leve	el Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
88.20	S	-69.84	-70.17	1.50	-1.17	-13.00	-56.84	
247.28	S	-69.84	-73.62	5.47	-1.70	-13.00	-56.84	
435.46	S	-70.00	-73.86	6.04	-2.18	-13.00	-57.00	
516.94	S	-68.33	-72.02	6.08	-2.40	-13.00	-55.33	
659.53	S	-64.93	-68.31	6.08	-2.69	-13.00	-51.93	
771.08	S	-53.55	-56.52	5.86	-2.89	-13.00	-40.55	
3704.80	Н	-56.61	-58.94	9.13	-6.80	-13.00	-43.61	
5557.20	Н	-52.73	-54.82	10.50	-8.41	-13.00	-39.73	
7409.60	Н	-49.23	-51.25	11.81	-9.79	-13.00	-36.23	
9262.00	Н							
11114.40	Н							
12966.80	Н							
14819.20	Н							

16671.60 H ----18524.00 H ----

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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Operation B ARFCN Fundamenta Operation M	l Frequency	:WCDMA B2 :CH 9400 :1880 MHz :TX MID	Test Date Temp./Humi. Engineer		:2014-11-26 :23 deg_C / 56 RH :Curry		
EUT Pol.		:H Plane	М	leasurement Ante	nna Pol.	:VERTICAL	2
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
32.91	S	-54.47	-42.19	-11.48	-0.80	-13.00	-41.47
155.13	S	-73.19	-72.45	0.66	-1.40	-13.00	-60.19
313.24	S	-71.00	-75.06	5.97	-1.90	-13.00	-58.00
539.25	S	-69.94	-73.53	6.05	-2.46	-13.00	-56.94
772.05	S	-50.60	-53.56	5.86	-2.89	-13.00	-37.60
924.34	S	-64.54	-66.84	5.60	-3.30	-13.00	-51.54
3760.00	Н	-55.13	-57.44	9.16	-6.85	-13.00	-42.13
5640.00	Н						
7520.00	Н	-46.47	-48.51	11.92	-9.87	-13.00	-33.47
9400.00	Н						
11280.00	Н						
13160.00	Н						
15040.00	Н						
16920.00	Н						
18800.00	Н						

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B2 :CH 9400 :1880 MHz :TX MID	Т	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Ν	Measurement Antenna Pol.		:HORIZONTAL		
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB	
94.99	S	-69.70	-70.02	1.51	-1.20	-13.00	-56.70	
278.32	S	-70.58	-74.42	5.64	-1.80	-13.00	-57.58	
515.97	S	-70.22	-73.91	6.09	-2.40	-13.00	-57.22	
651.77	S	-63.46	-66.86	6.09	-2.68	-13.00	-50.46	
771.08	S	-51.70	-54.66	5.86	-2.89	-13.00	-38.70	
941.80	S	-62.30	-64.49	5.52	-3.32	-13.00	-49.30	
3760.00	Н	-57.69	-60.00	9.16	-6.85	-13.00	-44.69	
5640.00	Н							
7520.00	Н	-49.05	-51.09	11.92	-9.87	-13.00	-36.05	
9400.00	Н							
11280.00	Н							
13160.00	Н							
15040.00	Н							
16920.00	Н							
18800.00	Н							

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B2 :CH 9538 :1907.6 MHz :TX HIGH	r	Test Date Temp./Humi. Engineer	:2014-11-26 :23 deg_C / 56 RH :Curry		
EUT Pol.		:H Plane]	Measurement Anter	nna Pol.	:VERTICAL	,
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Leve	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.94	S	-53.94	-41.42	-11.72	-0.80	-13.00	-40.94
170.65	S	-74.14	-74.45	1.75	-1.44	-13.00	-61.14
313.24	S	-69.94	-74.01	5.97	-1.90	-13.00	-56.94
635.28	S	-65.23	-68.57	6.00	-2.66	-13.00	-52.23
773.02	S	-52.88	-55.84	5.86	-2.90	-13.00	-39.88
948.59	S	-64.46	-66.62	5.49	-3.33	-13.00	-51.46
3815.20	Н	-55.32	-57.61	9.19	-6.90	-13.00	-42.32
5722.80	Н						
7630.40	Н	-44.76	-46.83	12.01	-9.94	-13.00	-31.76
9538.00	Н						
11445.60	Н						
12252 20	ц						

13353.20	Н	
15260.80	Н	
17168.40	Н	
19076.00	Н	

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Operation B ARFCN Fundamenta Operation M EUT Pol.	ll Frequency	:WCDMA B2 :CH 9538 :1907.6 MHz :TX HIGH :H Plane	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:2014-11-26 :23 deg_C / 56 RH :Curry :HORIZONTAL		
Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
88.20	S	-70.36	-70.70	1.50	-1.17	-13.00	-57.36
286.08	S	-69.92	-73.65	5.55	-1.83	-13.00	-56.92
527.61	S	-69.86	-73.50	6.07	-2.43	-13.00	-56.86
646.92	S	-64.67	-68.06	6.07	-2.68	-13.00	-51.67
773.99	S	-51.73	-54.69	5.86	-2.90	-13.00	-38.73

646.92	S	-64.67	-68.06	6.07	-2.68	-13.00	-51.67
773.99	S	-51.73	-54.69	5.86	-2.90	-13.00	-38.73
937.92	S	-64.78	-67.00	5.54	-3.32	-13.00	-51.78
3815.20	Н	-56.43	-58.73	9.19	-6.90	-13.00	-43.43
5722.80	Н						
7630.40	Н	-48.23	-50.30	12.01	-9.94	-13.00	-35.23
9538.00	Н						
11445.60	Н						
13353.20	Н						
15260.80	Н						
17168.40	Н						
19076.00	Н						

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:WCDMA B5		Test Date		:2014-11-26	
ARFCN	:CH 4132		Temp./Humi.		:23 deg_C / :	56 RH
Fundamental Frequency	:826.4 MHz		Engineer		:Curry	
Operation Mode	:TX LOW					
EUT Pol.	:H Plane		Measurement Anter	nna Pol.	:VERTICAL	,
Freq. Note	ERP	SG	Antenna	Cable	Limit	Margin

rreq.	1,010	LIG	50	7 mitemia	Cubic	Linnt	margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
32.91	S	-55.86	-41.43	-13.63	-0.80	-13.00	-42.86
89.17	S	-71.88	-70.27	-0.43	-1.18	-13.00	-58.88
283.17	S	-72.33	-73.98	3.46	-1.82	-13.00	-59.33
383.08	S	-72.16	-74.16	4.03	-2.04	-13.00	-59.16
639.16	S	-66.68	-67.89	3.88	-2.67	-13.00	-53.68
772.05	S	-54.86	-55.67	3.71	-2.89	-13.00	-41.86
1652.80	Н	-63.34	-62.47	3.55	-4.42	-13.00	-50.34
2479.20	Н						
3305.60	Н						
4132.00	Н						
4958.40	Н						
5784.80	Н						

04.00	п	
11.20	Н	
37.60	Н	
64.00	Н	

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B5 :CH 4132 :826.4 MHz :TX LOW	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.	10.00	:H Plane	Ν	Measurement Antenna Pol.		:HORIZONTAL	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
88.20	S	-70.16	-68.34	-0.65	-1.17	-13.00	-57.16
240.49	S	-68.80	-70.41	3.29	-1.67	-13.00	-55.80
390.84	S	-72.62	-74.59	4.03	-2.05	-13.00	-59.62
641.10	S	-67.29	-68.50	3.89	-2.67	-13.00	-54.29
770.11	S	-54.85	-55.66	3.71	-2.89	-13.00	-41.85
948.59	S	-65.34	-65.34	3.34	-3.33	-13.00	-52.34
1652.80	Н	-65.53	-64.65	3.55	-4.42	-13.00	-52.53
2479.20	Н						
3305.60	Н						
4132.00	Н						
4958.40	Н						
5784.80	Н						
6611.20	Н						
7437.60	Н						
8264.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B5 :CH 4183 :836.6 MHz :TX MID	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
EUT Pol.		:H Plane	Ν	Measurement Antenna Pol. :VERTICAL			
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Level	Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
31.94	S	-58.18	-43.50	-13.87	-0.80	-13.00	-45.18
336.52	S	-71.59	-73.62	3.98	-1.95	-13.00	-58.59
523.73	S	-71.80	-73.31	3.92	-2.42	-13.00	-58.80
640.13	S	-67.26	-68.47	3.88	-2.67	-13.00	-54.26
773.02	S	-54.81	-55.63	3.71	-2.90	-13.00	-41.81
935.98	S	-66.13	-66.21	3.40	-3.32	-13.00	-53.13
1673.20	Н	-63.57	-62.61	3.49	-4.45	-13.00	-50.57
2509.80	Н						
3346.40	Н						
4183.00	Н						
5019.60	Н						
5856.20	Н						
6692.80	Н						
7529.40	Н						
8366.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B5 :CH 4183 :836.6 MHz :TX MID	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry		
EUT Pol.		:H Plane	Ν	leasurement Ante	nna Pol.	:HORIZONTAL		
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin	
			Output Level	Gain	Loss			
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB	
91.11	S	-70.18	-68.65	-0.33	-1.20	-13.00	-57.18	
239.52	S	-67.99	-69.63	3.31	-1.67	-13.00	-54.99	
322.94	S	-71.84	-73.81	3.88	-1.92	-13.00	-58.84	
594.54	S	-68.56	-69.62	3.67	-2.61	-13.00	-55.56	
773.02	S	-53.69	-54.50	3.71	-2.90	-13.00	-40.69	
951.50	S	-65.80	-65.71	3.25	-3.34	-13.00	-52.80	
1673.20	Н	-65.05	-64.09	3.49	-4.45	-13.00	-52.05	
2509.80	Н							
3346.40	Н							
4183.00	Н							
5019.60	Н							
5856.20	Н							
6692.80	Н							
7529.40	Н							
8366.00	Н							

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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Operation Band ARFCN Fundamental Frequency Operation Mode		:WCDMA B5 :CH 4233 :846.6 MHz :TX HIGH	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry			
EUT Pol.	-			Measurement Antenna Pol.			:VERTICAL		
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin		
			Output Leve	el Gain	Loss				
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB		
32.91	S	-55.02	-40.59	-13.63	-0.80	-13.00	-42.02		
325.85	S	-71.34	-73.32	3.90	-1.93	-13.00	-58.34		
467.47	S	-71.63	-73.25	3.89	-2.27	-13.00	-58.63		
646.92	S	-66.49	-67.74	3.92	-2.68	-13.00	-53.49		
772.05	S	-55.82	-56.64	3.71	-2.89	-13.00	-42.82		
949.56	S	-67.33	-67.33	3.34	-3.34	-13.00	-54.33		
1693.20	Н	-62.29	-61.26	3.44	-4.48	-13.00	-49.29		
2539.80	Н								
3386.40	Н								
4233.00	Н								
5079.60	Н								
5926.20	Н								
6772.80	Н								

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

Η

Η

7619.40

8466.00

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ARFCN:CHFundamental Frequency:846Operation Mode:TX		:WCDMA B5 :CH 4233 :846.6 MHz :TX HIGH	Test Date Temp./Humi. Engineer			:2014-11-26 :23 deg_C / 56 RH :Curry	
		:H Plane]	Measurement Anter	nna Pol.	:HORIZONTAL	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Leve	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
89.17	S	-70.55	-68.94	-0.43	-1.18	-13.00	-57.55
242.43	S	-68.93	-70.55	3.30	-1.68	-13.00	-55.93
451.95	S	-73.00	-74.62	3.85	-2.22	-13.00	-60.00
642.07	S	-67.21	-68.43	3.89	-2.67	-13.00	-54.21
771.08	S	-55.52	-56.34	3.71	-2.89	-13.00	-42.52
948.59	S	-65.76	-65.77	3.34	-3.33	-13.00	-52.76
1693.20	Н	-64.50	-63.47	3.44	-4.48	-13.00	-51.50
2539.80	Н						
3386.40	Н						
4233.00	Н						
5079.60	Н						
5926.20	Н						
6772.80	Н						
7619.40	Н						

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

Η

8466.00

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Radiated Spurious Emission Measurement Result: 20 MHz BW LTE-Band 2(The Worst Case)Operation Band:LTE B4Test Date:2014-02-28									
ARFCN		:CH 18700 20 RB 1 0	16QAM BW To	est Date		:2014-11-20			
Operation Band Fundamental Frequency Operation Mode		:LTE B2 :1860 MHz :TX LOW	Temp./Humi. Engineer		:23 deg_C / 58 RH :Tin				
EUT Pol.		:E2 Plane	Measurement Antenna Pol. :VERTICAL				_		
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Safe		
			Output Level	Gain	Loss		Margin		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB		
31.94	S	-55.45	-40.77	-13.87	-0.80	-13.00	-42.45		
250.19	S	-73.02	-74.65	3.34	-1.71	-13.00	-60.02		
448.07	S	-72.44	-74.07	3.85	-2.21	-13.00	-59.44		
522.76	S	-71.45	-72.96	3.93	-2.42	-13.00	-58.45		
772.05	S	-54.39	-55.20	3.71	-2.89	-13.00	-41.39		
937.92	S	-65.87	-65.94	3.39	-3.32	-13.00	-52.87		
3720.00	Н	-52.11	-54.43	9.14	-6.82	-13.00	-39.11		
5580.00	Н								
7440.00	Н								
9300.00	Н								
11160.00	Н								
13020.00	Н								
14880.00	Н								
16740.00	Н								
18600.00	Н								

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN		:CH 18700 20 RB 1 0	16QAM BW	⁷ Test Date		:2014-11-20	
Operation Band Fundamental Frequency Operation Mode		:LTE B2 :1860 MHz :TX LOW	Temp./Humi. Engineer		:23 deg_C / 58 RH :Tin		
EUT Pol.		:E2 Plane		Measurement Ante	enna Pol.	:HORIZONTAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Lev	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
90.14	S	-70.77	-69.33	-0.25	-1.20	-13.00	-57.77
247.28	S	-71.95	-73.58	3.32	-1.70	-13.00	-58.95
392.78	S	-73.35	-75.32	4.03	-2.06	-13.00	-60.35
596.48	S	-68.74	-69.79	3.66	-2.61	-13.00	-55.74
772.05	S	-54.39	-55.20	3.71	-2.89	-13.00	-41.39
940.83	S	-66.56	-66.61	3.38	-3.32	-13.00	-53.56
3720.00	Н	-58.22	-60.54	9.14	-6.82	-13.00	-45.22
5580.00	Н						
7440.00	Н						
9300.00	Н						
11160.00	Н						
13020.00	Н						
14880.00	Н						
16740.00	Н						
18600.00	Н						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN		:CH 18900 16QAM BW 20 RB 1 0		Test Date		:2014-11-20	
Operation Band Fundamental Frequency Operation Mode		:LTE B2 :1880 MHz :TX MID	Temp./Humi. Engineer		:23 deg_C / 58 RH :Tin		
EUT Pol.		:E2 Plane		Measurement Ante	enna Pol.	:VERTICAL	
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Lev	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
31.94	S	-55.48	-40.80	-13.87	-0.80	-13.00	-42.48
265.71	S	-73.06	-74.55	3.25	-1.76	-13.00	-60.06
385.99	S	-73.18	-75.16	4.03	-2.05	-13.00	-60.18
536.34	S	-71.26	-72.71	3.91	-2.45	-13.00	-58.26
689.60	S	-67.21	-68.38	3.89	-2.73	-13.00	-54.21
773.02	S	-54.74	-55.56	3.71	-2.90	-13.00	-41.74
3760.00	Н	-52.62	-54.93	9.16	-6.85	-13.00	-39.62
5640.00	Н						
7520.00	Н						
9400.00	Н						
11280.00	Н						
13160.00	Н						
15040.00	Н						
16920.00	Н						
18800.00	Н						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

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ARFCN		:CH 18900 20 RB 1 0	16QAM BW	Test Date		:2014-11-20	
Operation Band Fundamental Frequency		:LTE B2 :1880 MHz :TX MID	Temp./Humi. Engineer			:23 deg_C / 58 RH :Tin	
Operation Mode EUT Pol.		:E2 Plane		Measurement Ante	enna Pol.	:HORIZON	TAL
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Lev	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
90.14	S	-71.46	-70.02	-0.25	-1.20	-13.00	-58.46
287.05	S	-71.53	-73.08	3.38	-1.83	-13.00	-58.53
473.29	S	-72.88	-74.50	3.90	-2.28	-13.00	-59.88
641.10	S	-66.88	-68.10	3.89	-2.67	-13.00	-53.88
770.11	S	-55.57	-56.39	3.71	-2.89	-13.00	-42.57
961.20	S	-67.08	-66.40	2.68	-3.35	-13.00	-54.08
3760.00	Н	-57.10	-59.41	9.16	-6.85	-13.00	-44.10
5640.00	Н						
7520.00	Н						
9400.00	Н						
11280.00	Н						
13160.00	Н						
15040.00	Н						
16920.00	Н						
18800.00	Н						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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FCC ID: PY7-PM0855

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ARFCN		:CH 19100 20 RB 1 0	16QAM BW	Test Date		:2014-11-20	
Operation Band Fundamental Frequency Operation Mode		:LTE B2		Temp./Humi. Engineer		:23 deg_C / 58 RH :Tin	
EUT Pol.		:E2 Plane		Measurement Ante	enna Pol.	:VERTICAI	<u>ـ</u>
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Lev	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
32.91	S	-56.90	-42.46	-13.63	-0.80	-13.00	-43.90
278.32	S	-72.83	-74.52	3.49	-1.80	-13.00	-59.83
337.49	S	-71.55	-73.58	3.98	-1.95	-13.00	-58.55
509.18	S	-71.20	-72.77	3.95	-2.38	-13.00	-58.20
769.14	S	-56.08	-56.89	3.70	-2.89	-13.00	-43.08
938.89	S	-66.19	-66.25	3.38	-3.32	-13.00	-53.19
3800.00	Н	-53.87	-56.17	9.18	-6.88	-13.00	-40.87
5700.00	Н						
7600.00	Н						
9500.00	Н						
11400.00	Н						
13300.00	Н						
15200.00	Н						
17100.00	Н						
19000.00	Н						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN		:CH 19100 20 RB 1 0	16QAM BW	Test Date		:2014-11-20	
Operation Band Fundamental Frequency Operation Mode		:LTE B2		Temp./Humi. Engineer		:23 deg_C / 58 RH :Tin	
EUT Pol.	node	:E2 Plane		Measurement Ante	enna Pol.	:HORIZON	TAL
Freq.	Note	EIRP	SG	Antenna	Cable	Limit	Margin
			Output Lev	vel Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
91.11	S	-71.62	-70.10	-0.33	-1.20	-13.00	-58.62
287.05	S	-72.12	-73.67	3.38	-1.83	-13.00	-59.12
435.46	S	-73.34	-75.06	3.89	-2.18	-13.00	-60.34
606.18	S	-69.92	-70.97	3.68	-2.63	-13.00	-56.92
772.05	S	-54.66	-55.47	3.71	-2.89	-13.00	-41.66
946.65	S	-65.99	-66.01	3.35	-3.33	-13.00	-52.99
3800.00	Н	-56.26	-58.56	9.18	-6.88	-13.00	-43.26
5700.00	Н						
7600.00	Н						
9500.00	Н						
11400.00	Н						
13300.00	Н						
15200.00	Н						
17100.00	Н						
19000.00	Н						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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Radiated Spurious Emission Measurement Result: 10 MHz BW LTE-Band 5(The Worst Case)

ARFCN	•	:CH 20450 10 RB 1 0	16QAM BW	Test Date	,	:2014-11-26	
Operation B		:LTE B5		Temp./Humi.		:23 deg_C /	58 RH
Operation N	al Frequency Mode	:829 MHz :TX LOW		Engineer		:Curry	
EUT Pol.	1040	:H Plane		Measurement Ante	nna Pol.	:VERTICAI	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Lev	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
31.94	S	-54.88	-40.20	-13.87	-0.80	-13.00	-41.88
88.20	S	-72.79	-70.98	-0.65	-1.17	-13.00	-59.79
320.03	S	-71.36	-73.31	3.86	-1.91	-13.00	-58.36
650.80	S	-66.77	-68.03	3.94	-2.68	-13.00	-53.77
771.08	S	-54.62	-55.43	3.71	-2.89	-13.00	-41.62
935.01	S	-66.46	-66.55	3.40	-3.31	-13.00	-53.46
1658.00	Н	-59.35	-58.45	3.53	-4.43	-13.00	-46.35
2487.00	Н						
3316.00	Н						
4145.00	Н						
4974.00	Н						
5803.00	Н						
6632.00	Н						
7461.00	Н						
8290.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN		:CH 20450 10 RB 1 0	16QAM BW	Test Date		:2014-11-26	
	al Frequency	:LTE B5 :829 MHz :TX LOW	Temp./Humi. Engineer			:23 deg_C / 58 RH :Curry	
Operation M EUT Pol.	vioue	:H Plane		Measurement Ante	enna Pol.	:HORIZON	ΓAL
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Leve	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
88.20	S	-69.27	-67.46	-0.65	-1.17	-13.00	-56.27
252.13	S	-71.34	-72.93	3.30	-1.72	-13.00	-58.34
480.08	S	-73.08	-74.69	3.91	-2.30	-13.00	-60.08
642.07	S	-67.10	-68.32	3.89	-2.67	-13.00	-54.10
769.14	S	-55.45	-56.27	3.70	-2.89	-13.00	-42.45
954.41	S	-66.01	-65.74	3.07	-3.34	-13.00	-53.01
1658.00	Н	-64.99	-64.10	3.53	-4.43	-13.00	-51.99
2487.00	Н						
3316.00	Н						
4145.00	Н						
4974.00	Н						
5803.00	Н						
6632.00	Н						
7461.00	Н						
8290.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN		:CH 20525 10 RB 1 0	16QAM BW	Test Date		:2014-11-26	
Operation B Fundament Operation N	al Frequency	:LTE B5 :836.5 MHz :TX MID		Temp./Humi. Engineer		:23 deg_C / :Curry	58 RH
EUT Pol.	lioue	:H Plane		Measurement Ante	enna Pol.	:VERTICAL	_
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Leve	el Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
31.94	S	-54.61	-39.94	-13.87	-0.80	-13.00	-41.61
92.08	S	-71.48	-69.88	-0.41	-1.20	-13.00	-58.48
312.27	S	-71.79	-73.71	3.81	-1.90	-13.00	-58.79
648.86	S	-66.85	-68.10	3.93	-2.68	-13.00	-53.85
770.11	S	-57.30	-58.12	3.71	-2.89	-13.00	-44.30
927.25	S	-65.96	-66.09	3.44	-3.30	-13.00	-52.96
1673.00	Н	-63.42	-62.46	3.49	-4.45	-13.00	-50.42
2509.50	Н						
3346.00	Н						
4182.50	Н						
5019.00	Н						
5855.50	Н						
6692.00	Н						
7528.50	Н						
8365.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN		:CH 20525 10 RB 1 0	16QAM BW,	Test Date		:2014-11-26	
Operation B Fundament Operation I	al Frequency	:LTE B5 :836.5 MHz :TX MID	Temp./Humi. Engineer			:23 deg_C / 58 RH :Curry	
EUT Pol.	lioue	:H Plane]	Measurement Ante	enna Pol.	:HORIZON	TAL
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Leve		Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
87.23	S	-68.85	-66.83	-0.88	-1.15	-13.00	-55.85
247.28	S	-71.14	-72.76	3.32	-1.70	-13.00	-58.14
491.72	S	-72.44	-74.05	3.94	-2.33	-13.00	-59.44
646.92	S	-66.53	-67.77	3.92	-2.68	-13.00	-53.53
770.11	S	-57.50	-58.31	3.71	-2.89	-13.00	-44.50
937.92	S	-66.77	-66.84	3.39	-3.32	-13.00	-53.77
1673.00	Н	-64.63	-63.67	3.49	-4.45	-13.00	-51.63
2509.50	Н						
3346.00	Н						
4182.50	Н						
5019.00	Н						
5855.50	Н						
6692.00	Н						
7528.50	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN Operation B Fundament Operation M EUT Pol.	al Frequency	:CH 20600 10 RB 1 0 :LTE B5 :844 MHz :TX HIGH :H Plane		Temp./Humi. Engineer	D I	:2014-11-26 :23 deg_C / :Curry :VERTICAL	58 RH
				Measurement Ante	enna Pol.		_
Freq.	Note	ERP	SG Output Leve	Antenna el Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
31.94	S	-53.94	-39.27	-13.87	-0.80	-13.00	-40.94
91.11	S	-72.74	-71.21	-0.33	-1.20	-13.00	-59.74
340.40	S	-71.22	-73.27	4.00	-1.96	-13.00	-58.22
650.80	S	-66.60	-67.86	3.94	-2.68	-13.00	-53.60
772.05	S	-55.56	-56.38	3.71	-2.89	-13.00	-42.56
930.16	S	-66.75	-66.87	3.42	-3.31	-13.00	-53.75
1688.00	Н	-62.83	-61.82	3.46	-4.47	-13.00	-49.83
2532.00	Н						
3376.00	Н						
4220.00	Н						
5064.00	Н						
5908.00	Н						
6752.00	Н						
7596.00	Н						
8440.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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ARFCN Operation B	and	:CH 20600 10 RB 1 0 :LTE B5	16QAM BW	Test Date Temp./Humi.		:2014-11-26 :23 deg_C /	
•	al Frequency	:844 MHz		Engineer		:Curry	36 KH
Operation I EUT Pol.	Mode	:TX HIGH :H Plane	I	Measurement Ante	nna Pol.	:HORIZONTAL	
Freq.	Note	ERP	SG	Antenna	Cable	Limit	Margin
			Output Leve	l Gain	Loss		
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
88.20	S	-70.04	-68.22	-0.65	-1.17	-13.00	-57.04
260.86	S	-72.11	-73.55	3.19	-1.75	-13.00	-59.11
517.91	S	-71.70	-73.23	3.93	-2.40	-13.00	-58.70
650.80	S	-66.79	-68.04	3.94	-2.68	-13.00	-53.79
772.05	S	-52.45	-53.27	3.71	-2.89	-13.00	-39.45
940.83	S	-66.36	-66.41	3.38	-3.32	-13.00	-53.36
1688.00	Н	-64.83	-63.82	3.46	-4.47	-13.00	-51.83
2532.00	Н						
3376.00	Н						
4220.00	Н						
5064.00	Н						
5908.00	Н						
6752.00	Н						
7596.00	Н						
8440.00	Н						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---" : denotes Noise Floor.

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11. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

11.1. Standard Applicable:

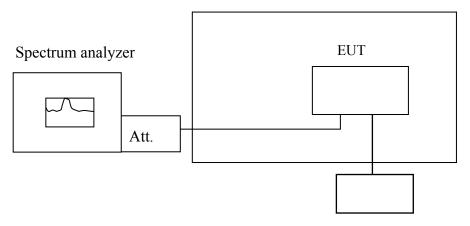
According to FCC §2.1055(a) (1)

Frequency Tolerance: +/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

11.2. Test Set-up:

Temperature Chamber



Variable DC Power Supply

Note: Measurement setup for testing on Antenna connector

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11.3. Measurement Procedure:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

11.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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11.5. Measurement Result:

	Reference Frequency: GPRS 850 Mid Channel 836.6 MHz								
Limit: ± -2.5 ppm = Hz									
Power Supply	Environment	Frequency							
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)					
3.8	50	836.599964	-17	2091					
3.8	40	836.599972	-9	2091					
3.8	30	836.599984	3	2091					
3.8	20	836.599981	0	2091					
3.8	10	836.599986	5	2091					
3.8	0	836.599989	8	2091					
3.8	-10	836.599984	3	2091					
3.8	-20	836.599981	0	2091					
3.8	-30	836.599984	3	2091					

	Reference Frequency: GPRS 1900 Mid Channel 1880 MHz								
	Limit: +/- 2.5 ppm = 4700 Hz								
Power Supply	Environment	Frequency							
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)					
3.8	50	1879.999969	-15	4700					
3.8	40	1879.999967	-17	4700					
3.8	30	1879.999972	-12	4700					
3.8	20	1879.999984	0	4700					
3.8	10	1879.999975	-9	4700					
3.8	0	1879.999982	-2	4700					
3.8	-10	1879.999987	3	4700					
3.8	-20	1879.999985	1	4700					
3.8	-30	1879.999978	-6	4700					

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Reference Frequency: WCDMA V Mid Channel 836.6 MHz								
Limit: ± -2.5 ppm = Hz								
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)				
Vdc	Temperature ()	(MHz)	Della (HZ)	Lillint (HZ)				
3.8	50	836.599981	-38	2091				
3.8	40	836.599985	-34	2091				
3.8	30	836.599992	-27	2091				
3.8	20	836.600019	0	2091				
3.8	10	836.599994	-25	2091				
3.8	0	836.599995	-24	2091				
3.8	-10	836.600009	-10	2091				
3.8	-20	836.600015	-4	2091				
3.8	-30	836.600022	3	2091				

Reference Frequency: WCDMA II Mid Channel 1880								
Limit: ± -2.5 ppm = Hz								
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)				
Vdc	Temperature ()	(MHz)	Della (HZ)	Linit (HZ)				
3.8	50	1879.999981	-11	4700				
3.8	40	1879.999984	-8	4700				
3.8	30	1879.999985	-7	4700				
3.8	20	1879.999992	0	4700				
3.8	10	1879.999985	-7	4700				
3.8	0	1879.999982	-10	4700				
3.8	-10	1879.999979	-13	4700				
3.8	-20	1879.999975	-17	4700				
3.8	-30	1879.999972	-20	4700				

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Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz 1.4M QPSK CH 18900
		Limit: +/- 2.5	ppm = Hz	
Power Supply	Environment	Frequency	Dolto (Uz)	Limit (IIz)
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	1880.000011	9.00	4700
3.8	-20	1880.000003	1.00	4700
3.8	-10	1879.999998	-4.00	4700
3.8	0	1879.999997	-5.00	4700
3.8	10	1880.000002	0.00	4700
3.8	20	1880.000002	0.00	4700
3.8	30	1879.999997	-5.00	4700
3.8	40	1879.999996	-6.00	4700
3.8	50	1880.000002	0.00	4700

Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	1.4M 16QAM CH 18900	
	Limit: ± -2.5 ppm = Hz					
Power Supply	Environment	Frequency	Dolto (Uz)		Limit (IIr)	
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)	
3.8	-30	1879.999998	-4.00		4700	
3.8	-20	1880.000004	2.00		4700	
3.8	-10	1880.000004	2.00		4700	
3.8	0	1879.999998	-4.00		4700	
3.8	10	1880.000004	2.00		4700	
3.8	20	1880.000002	0.00		4700	
3.8	30	1880.000005	3.00		4700	
3.8	40	1879.999998	-4.00		4700	
3.8	50	1879.999995	-7.00		4700	



Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	3M QPSK CH 18900
		Limit: +/- 2.5	ppm = Hz		
Power Supply	Environment	Frequency	Dalta (Uz)		Limit (IIz)
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)
3.8	-30	1879.999994	-9.00		4700
3.8	-20	1879.999998	-5.00		4700
3.8	-10	1880.000003	0.00		4700
3.8	0	1879.999996	-7.00		4700
3.8	10	1880.000002	-1.00		4700
3.8	20	1880.000003	0.00		4700
3.8	30	1879.999997	-6.00		4700
3.8	40	1879.999993	-10.00		4700
3.8	50	1880.000009	6.00		4700



Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	3M 16QAM CH 18900	
	Limit: ± -2.5 ppm = Hz					
Power Supply	Environment	Frequency	Dolta (Hz)	ta (Hz) Limit (Hz)		
Vdc	Temperature	(MHz)	Della (HZ)			
3.8	-30	1880.000005	3.00		4700	
3.8	-20	1880.000003	1.00		4700	
3.8	-10	1880.000007	5.00		4700	
3.8	0	1879.999995	-7.00		4700	
3.8	10	1879.999996	-6.00		4700	
3.8	20	1880.000002	0.00		4700	
3.8	30	1880.000005	3.00		4700	
3.8	40	1879.999992	-10.00		4700	
3.8	50	1880.000003	1.00		4700	

Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	5M QPSK CH 18900
		Limit: +/- 2.5	ppm = Hz		
Power Supply	Environment	Frequency	Dolto (Uz)		
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)
3.8	-30	1880.000004	1.00		4700
3.8	-20	1880.000009	6.00		4700
3.8	-10	1880.000003	0.00		4700
3.8	0	1880.000006	3.00		4700
3.8	10	1879.999997	-6.00		4700
3.8	20	1880.000003	0.00		4700
3.8	30	1880.000005	2.00		4700
3.8	40	1880.000007	4.00		4700
3.8	50	1880.000002	-1.00		4700



Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz 5M 16QAM CH 18900
		Limit: +/- 2.5	ppm = Hz	
Power Supply	Environment	Frequency	Dolto (Uz)	Limit (IIz)
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	1879.999997	-8.00	4700
3.8	-20	1879.999996	-9.00	4700
3.8	-10	1880.000001	-4.00	4700
3.8	0	1880.000003	-2.00	4700
3.8	10	1880.000003	-2.00	4700
3.8	20	1880.000005	0.00	4700
3.8	30	1879.999997	-8.00	4700
3.8	40	1879.999996	-9.00	4700
3.8	50	1880.000000	-5.00	4700

Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	10M QPSK CH 18900
		Limit: +/- 2.5	ppm = Hz		
Power Supply	Environment	Frequency			Limit (IIa)
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)
3.8	-30	1880.000003	1.00		4700
3.8	-20	1880.000002	0.00		4700
3.8	-10	1880.000005	3.00		4700
3.8	0	1879.999998	-4.00		4700
3.8	10	1879.999996	-6.00		4700
3.8	20	1880.000002	0.00		4700
3.8	30	1880.000003	1.00		4700
3.8	40	1879.999996	-6.00		4700
3.8	50	1879.999998	-4.00		4700

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Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	10M 16QAM CH 18900
	Limit: ± -2.5 ppm = Hz				
Power Supply	Environment	Frequency	Dolto (Uz)		
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)
3.8	-30	1880.000010	7.00		4700
3.8	-20	1879.999998	-5.00		4700
3.8	-10	1880.000003	0.00		4700
3.8	0	1880.000005	2.00		4700
3.8	10	1880.000004	1.00		4700
3.8	20	1880.000003	0.00		4700
3.8	30	1879.999997	-6.00		4700
3.8	40	1879.999996	-7.00		4700
3.8	50	1880.000002	-1.00		4700

Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz	15M QPSK CH 18900	
	Limit: ± -2.5 ppm = Hz					
Power Supply	Environment	Frequency	Dalta (Uz)			
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)	
3.8	-30	1880.000007	3.00		4700	
3.8	-20	1880.000005	1.00		4700	
3.8	-10	1879.999993	-11.00		4700	
3.8	0	1879.999997	-7.00		4700	
3.8	10	1880.000002	-2.00		4700	
3.8	20	1880.000004	0.00		4700	
3.8	30	1880.000003	-1.00		4700	
3.8	40	1880.000004	0.00		4700	
3.8	50	1879.999997	-7.00		4700	



Referen	eference Frequency: LTE B2 Mid Channel		1880.0	MHz	15M 16QAM CH 18900	
	Limit: ± -2.5 ppm = Hz					
Power Supply	Environment	Frequency	Dalta (II-			
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)	
3.8	-30	1880.000007	3.00		4700	
3.8	-20	1880.000003	-1.00		4700	
3.8	-10	1879.999995	-9.00		4700	
3.8	0	1879.999996	-8.00		4700	
3.8	10	1879.999994	-10.00		4700	
3.8	20	1880.000004	0.00		4700	
3.8	30	1880.000003	-1.00		4700	
3.8	40	1880.000004	0.00		4700	
3.8	50	1879.999998	-6.00		4700	

Referen	ce Frequency:	LTE B2 Mid Channel	nel 1880.0 MHz 20M QPSK CH		20M QPSK CH 18900			
	Limit: ± -2.5 ppm = Hz							
Power Supply	Environment	Frequency			Limit (II-)			
Vdc	Temperature	(MHz)	Delta (HZ)	Delta (Hz) Limit (Hz)				
3.8	-30	1880.000004	1.00		4700			
3.8	-20	1880.000003	0.00		4700			
3.8	-10	1880.000005	2.00		4700			
3.8	0	1879.999996	-7.00		4700			
3.8	10	1880.000006	3.00		4700			
3.8	20	1880.000003	0.00		4700			
3.8	30	1880.000004	1.00		4700			
3.8	40	1879.999996	-7.00		4700			
3.8	50	1879.999996	-7.00		4700			



Referen	ce Frequency:	LTE B2 Mid Channel	1880.0	MHz 20M 16QAM CH 1			
	Limit: ± -2.5 ppm = Hz						
Power Supply	Environment	Frequency	Delta (Hz)	Hz) Limit (Hz)			
Vdc	Temperature	(MHz)	Della (HZ)				
3.8	-30	1880.000010	7.00		4700		
3.8	-20	1880.000008	5.00		4700		
3.8	-10	1880.000003	0.00		4700		
3.8	0	1879.999998	-5.00		4700		
3.8	10	1879.999997	-6.00		4700		
3.8	20	1880.000003	0.00		4700		
3.8	30	1880.000004	1.00		4700		
3.8	40	1880.000003	0.00		4700		
3.8	50	1879.999998	-5.00		4700		

Referen	ce Frequency:	LTE B5 Mid Channel	836.5	6.5 MHz 1.4M QPSK CH			
	Limit: ± -2.5 ppm = Hz						
Power Supply	Environment	Frequency	Dolto (Uz)		Limit (IIz)		
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)		
3.8	-30	836.500012	9.00		2091		
3.8	-20	836.500006	3.00		2091		
3.8	-10	836.500008	5.00		2091		
3.8	0	836.500009	6.00		2091		
3.8	10	836.500005	2.00		2091		
3.8	20	836.500003	0.00		2091		
3.8	30	836.500002	-1.00		2091		
3.8	40	836.499995	-8.00		2091		
3.8	50	836.499993	-10.00		2091		



Referen	ce Frequency:	LTE B5 Mid Channel 836.5		MHz 1.4M 16QAM CH 20525
		Limit: +/- 2.5 ppm	n = Hz	
Power Supply	Environment	Frequency	Dalta (Uz)	Limit (II-)
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	836.500009	4.00	2091
3.8	-20	836.500006	1.00	2091
3.8	-10	836.500004	-1.00	2091
3.8	0	836.500009	4.00	2091
3.8	10	836.500003	-2.00	2091
3.8	20	836.500005	0.00	2091
3.8	30	836.499997	-8.00	2091
3.8	40	836.499998	-7.00	2091
3.8	50	836.499993	-12.00	2091

Referen	ce Frequency:	LTE B5 Mid Channel	836.5	MHz	3M QPSK CH 20525
		Limit: +/- 2.5 ppm	H = Hz		
Power Supply	Environment	Frequency	Dalta (Uz)		
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)
3.8	-30	836.500011	14.00		2091
3.8	-20	836.500006	9.00	2091	
3.8	-10	836.500003	6.00		2091
3.8	0	836.500005	8.00		2091
3.8	10	836.500009	12.00		2091
3.8	20	836.499997	0.00		2091
3.8	30	836.499995	-2.00		2091
3.8	40	836.499996	-1.00		2091
3.8	50	836.499992	-5.00		2091



Referen	ce Frequency:	LTE B5 Mid Channel	836.5 MHz 3M		3M 16QAM CH 20525	
Limit: ± -2.5 ppm = Hz						
Power Supply	Environment	Frequency	Dolto (Uz)		Limit (IIz)	
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)	
3.8	-30	836.500010	12.00		2091	
3.8	-20	836.500009	11.00		2091	
3.8	-10	836.500003	5.00		2091	
3.8	0	836.500004	6.00		2091	
3.8	10	836.500006	8.00		2091	
3.8	20	836.499998	0.00		2091	
3.8	30	836.499994	-4.00		2091	
3.8	40	836.499992	-6.00		2091	
3.8	50	836.499993	-5.00		2091	

Referen	ce Frequency:	LTE B5 Mid Channel	836.5 MHz 5M QPSK CH		5M QPSK CH 20525		
	Limit: ± -2.5 ppm = Hz						
Power Supply	Environment	Frequency	Dolto (Uz)				
Vdc	Temperature	(MHz)	Delta (Hz)		Limit (Hz)		
3.8	-30	836.500007	9.00		2091		
3.8	-20	836.500010	12.00		2091		
3.8	-10	836.500006	8.00		2091		
3.8	0	836.500003	5.00		2091		
3.8	10	836.500005	7.00		2091		
3.8	20	836.499998	0.00		2091		
3.8	30	836.499994	-4.00		2091		
3.8	40	836.499996	-2.00		2091		
3.8	50	836.499992	-6.00		2091		



Referen	ce Frequency:	LTE B5 Mid Channel	836.5	MHz 5M 16QAM CH 20525
		Limit: +/- 2.5 ppm	n= Hz	
Power Supply	Environment	Frequency	Dalta (Uz)	Limit (IIz)
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	836.500006	4.00	2091
3.8	-20	836.500011	9.00	2091
3.8	-10	836.500015	13.00	2091
3.8	0	836.500008	6.00	2091
3.8	10	836.500005	3.00	2091
3.8	20	836.500002	0.00	2091
3.8	30	836.499997	-5.00	2091
3.8	40	836.499994	-8.00	2091
3.8	50	836.499993	-9.00	2091

Referen	ce Frequency:	LTE B5 Mid Channel	LTE B5 Mid Channel 836.5	
		Limit: +/- 2.5 ppm	n=Hz	
Power Supply	Environment	Frequency	Dalta (Uz)	Limit (II-)
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	836.500008	2.00	2091
3.8	-20	836.500013	7.00	2091
3.8	-10	836.500010	4.00	2091
3.8	0	836.500009	3.00	2091
3.8	10	836.500006	0.00	2091
3.8	20	836.500006	0.00	2091
3.8	30	836.500004	-2.00	2091
3.8	40	836.499994	-12.00	2091
3.8	50	836.499995	-11.00	2091



Reference Frequency:		LTE B5 Mid Channel 836.5		MHz 10M 16QAM CH 20525
		Limit: +/- 2.5 ppn	n = Hz	
Power Supply	Environment	Frequency	Delte (II-	
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
3.8	-30	836.500010	12.00	2091
3.8	-20	836.500007	9.00	2091
3.8	-10	836.500003	5.00	2091
3.8	0	836.500002	4.00	2091
3.8	10	836.499997	-1.00	2091
3.8	20	836.499998	0.00	2091
3.8	30	836.499992	-6.00	2091
3.8	40	836.499996	-2.00	2091
3.8	50	836.499994	-4.00	2091

Note: The battery is rated 3.8V dc.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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12. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

12.1. Standard Applicable:

According to FCC §2.1055(d) (2)

Frequency Tolerance: +/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

12.2. Test Set-up:

Refer to section 11.2 in this report

12.3. Measurement Procedure:

Set chamber temperature to 25 . Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

12.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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12.5. Measurement Result:

GPRS850

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz								
	Limit: ± -2.5 ppm = Hz							
Power Supply	Environment	Frequency						
Vdc	Temperature ()	(MHz)	Delta (Hz)	Limit (Hz)				
4.35	25	836599984	3	2091				
3.8	25	836599981	0	2091				
3.4	25	836599968	-13	2091				
2.9	25	826500020	50	2001				
(End point)	25	836599929	-52	2091				

GPRS1900

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz						
	Lii	mit: +/- 2.5 ppm = 1	Hz			
Power Supply	Environment	Frequency				
Vdc	Temperature ()	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	1879999978	-6	4700		
3.8	25	1879999984	0	4700		
3.4	25	1879999983	-1	4700		
2.9	25	1879999941	-43	4700		
(End point)	_		-45	4700		

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WCDMA II

Reference Frequency: WCDMA II Mid Channel 1880 MHz					
	Lii	mit: $+/- 2.5 \text{ ppm} = 1$	Hz		
Power Supply	Environment	Environment Frequency D to (II)			
Vdc	Temperature ()	(MHz)	MHz) Delta (Hz) Limit (Hz		
4.35	25	1879999994	2	4700	
3.8	25	1879999992	0	4700	
3.4	25	1879999985	-7	4700	
2.9	25	107000050	10	1700	
(End point)	23	1879999950	-42	4700	

WCDMA V

Reference Frequency: WCDMA V Mid Channel 836.6 MHz						
	Limit: +/- 2.5 ppm = Hz					
Power Supply	Environment	Environment Frequency Difference				
Vdc	Temperature ()	(MHz)	Delta (Hz)	Limit (Hz)		
4.4	25	836600025	6	2091		
3.8	25	836600019	0	2091		
3.4	25	836599995	-24	2091		
2.9	25	82(500057		2001		
(End point)	23	836599957	-62	2091		

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Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 1.4M QPSK CH 18900	
	Limit: ± -2.5 ppm = Hz				
Power Sup- ply	Environment	Frequency			
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)	
4.35	25	1880.000004	2.00	4700	
3.8	25	1880.000002	0.00	4700	
3.40	25	1880.000001	-1.00	4700	
2.9 (End Point)	25	1880.000042	40.00	4700	

Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 1.4M 16 QAM CH 18900	
	Limit: ± -2.5 ppm = Hz				
Power Sup- ply	Environment	Frequency			
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)	
4.35	25	1880.000004	2.00	4700	
3.8	25	1880.000002	0.00	4700	
3.40	25	1880.000002	0.00	4700	
2.9 (End Point)	25	1880.000034	32.00	4700	

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Taiwan L



Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 3M QPSK CH 18900	
	Limit: ± -2.5 ppm = Hz				
Power Sup- ply	Environment	Frequency			
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)	
4.35	25	1880.000005	2.00	4700	
3.8	25	1880.000003	0.00	4700	
3.40	25	1880.000004	1.00	4700	
2.9 (End Point)	25	1880.000044	41.00	4700	

Reference	Frequency:	LTE B2 Mid Channel	1880.0	MHz 3M 16 QAM CH 18900	
	Limit: $\pm -2.5 \text{ ppm} = \text{Hz}$				
Power Sup- ply	Environment	Frequency			
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)	
4.35	25	1880.000005	2.00	4700	
3.8	25	1880.000003	0.00	4700	
3.40	25	1880.000004	1.00	4700	
2.9 (End Point)	25	1880.000028	25.00	4700	



Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 5M QPSK CH 18900	
	Limit: $\pm -2.5 \text{ ppm} = \text{Hz}$				
Power Sup- ply	Environment	Frequency			
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)	
4.35	25	1880.000004	-3.00	4700	
3.8	25	1880.000007	0.00	4700	
3.40	25	1880.000004	-3.00	4700	
2.9 (End Point)	25	1880.000028	21.00	4700	

Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 5M 16 QAM CH 18900		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	1880.000006	3.00	4700		
3.8	25	1880.000003	0.00	4700		
3.40	25	1880.000005	2.00	4700		
2.9 (End Point)	25	1880.000044	41.00	4700		

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Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 10M QPSK CH 18900		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	1880.000001	-2.00	4700		
3.8	25	1880.000003	0.00	4700		
3.40	25	1880.000005	2.00	4700		
2.9 (End Point)	25	1880.000041	38.00	4700		

Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 10M 16 QAM CH 18900		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	1880.000008	4.00	4700		
3.8	25	1880.000004	0.00	4700		
3.40	25	1880.000005	1.00	4700		
2.9 (End Point)	25	1880.000038	34.00	4700		

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Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 15M QPSK CH 18900	
	Limit: ± -2.5 ppm = Hz				
Power Sup- ply	Environment	Frequency			
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)	
4.35	25	1880.000005	2.00	4700	
3.8	25	1880.000003	0.00	4700	
3.40	25	1880.000006	3.00	4700	
2.9 (End Point)	25	1880.000036	33.00	4700	

Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 15M 16 QAM CH 18900		
	Limit: $\pm -2.5 \text{ ppm} = \text{Hz}$					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	1880.000006	2.00	4700		
3.8	25	1880.000004	0.00	4700		
3.40	25	1880.000003	-1.00	4700		
2.9 (End Point)	25	1880.000051	47.00	4700		

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Reference Frequency:		LTE B2 Mid Channel	1880.0	MHz 20M QPSK CH 18900		
	Limit: $\pm -2.5 \text{ ppm} = \text{Hz}$					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	1880.000004	-1.00	4700		
3.8	25	1880.000005	0.00	4700		
3.40	25	1880.000004	-1.00	4700		
2.9 (End Point)	25	1880.000041	36.00	4700		

Reference	Frequency:	LTE B2 Mid Channel	1880.0	MHz 20M 16 QAM CH 18900
		Limit: +/- 2.5	ppm = Hz	
Power Sup- ply	Environment	Frequency		
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
4.35	25	1880.000006	1.00	4700
3.8	25	1880.000005	0.00	4700
3.40	25	1880.000004	-1.00	4700
2.9 (End Point)	25	1880.000035	30.00	4700



Reference Frequency:		LTE B5 Mid Channel	836.5	MHz 1.4M QPSK CH 20525		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	836.500006	-2.00	2091		
3.8	25	836.500008	0.00	2091		
3.40	25	836.500004	-4.00	2091		
2.9 (End Point)	25	836.500044	36.00	2091		

Reference	Frequency:	LTE B5 Mid Channel	836.5	MHz 1.4M 16 QAM CH 20525
		Limit: +/- 2.5	ppm = Hz	
Power Sup- ply	Environment	Frequency		
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
4.35	25	836.500004	-4.00	2091
3.8	25	836.500008	0.00	2091
3.40	25	836.500003	-5.00	2091
2.9 (End Point)	25	836.500038	30.00	2091



Reference Frequency:		LTE B5 Mid Channel	836.5	MHz 3M QPSK CH 20525		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	836.500007	2.00	2091		
3.8	25	836.500005	0.00	2091		
3.40	25	836.500002	-3.00	2091		
2.9 (End Point)	25	836.500029	24.00	2091		

Reference	Frequency:	LTE B5 Mid Channel	836.5	MHz 3M 16 QAM CH 20525		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	836.500006	3.00	2091		
3.8	25	836.500003	0.00	2091		
3.40	25	836.500004	1.00	2091		
2.9 (End Point)	25	836.500026	23.00	2091		

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Reference Frequency:		LTE B5 Mid Channel	836.5	MHz 5M QPSK CH 20525		
	Limit: $\pm -2.5 \text{ ppm} = \text{Hz}$					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	836.500006	3.00	2091		
3.8	25	836.500003	0.00	2091		
3.40	25	836.500001	-2.00	2091		
2.9 (End Point)	25	836.500032	29.00	2091		

Reference	Frequency:	LTE B5 Mid Channel	836.5	MHz 5M 16 QAM CH 20525		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	836.500007	3.00	2091		
3.8	25	836.500004	0.00	2091		
3.40	25	836.500002	-2.00	2091		
2.9 (End Point)	25	836.500036	32.00	2091		



Reference Frequency:		LTE B5 Mid Channel	836.5	MHz 10M QPSK CH 20525		
	Limit: ± -2.5 ppm = Hz					
Power Sup- ply	Environment	Frequency				
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)		
4.35	25	836.500005	1.00	2091		
3.8	25	836.500004	0.00	2091		
3.40	25	836.500006	2.00	2091		
2.9 (End Point)	25	836.500029	25.00	2091		

Reference	Frequency:	LTE B5 Mid Channel	836.5	MHz 10M 16 QAM CH 20525
		Limit: +/- 2.5	ppm = Hz	
Power Sup- ply	Environment	Frequency		
Vdc	Temperature	(MHz)	Delta (Hz)	Limit (Hz)
4.35	25	836.500008	5.00	2091
3.8	25	836.500003	0.00	2091
3.40	25	836.500002	-1.00	2091
2.9 (End Point)	25	836.500033	30.00	2091

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13. PEAK TO AVERAGE RATIO

13.1. Standard Applicable:

According FCC 24.232(d), The peak-to-average ration (PAR) of the transmission may not exceed 13dB.

13.2. Test SET-UP (Block Diagram of Configuration):

Refer to section 2.4 in this report

13.3. Measurement Procedure:

KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly: Set resolution/measurement bandwidth \geq signal's occupied bandwidth; & internal =1ms Set the number of counts to a value that stabilizes the measured CCDF curve.

13.4. Measurement Equipment Used:

Refer to section 2.4 in this report

13.5. Measurement Result:

Refer to next page for tabular, and plot results

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13.5.1 Tabular Results:

	Peak-to-Average Ratio						
	Channel 128(L)		Channel	Channel 190(M)		251(H)	
TEST	824.2MHz		836.6MHz		848.8MHz		
CONDITIONS	dB		dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
GSM 850	10.83	13	10.39	13	8.27	13	
GPRS 850	9.24	13	9.63	13	10.27	13	
EDGE 850	11.81	13	12.21	13	12.54	13	

		Peak-to-Average Ratio						
	Channel 512(L)		Channel 661(M)		Channel 810(H)			
TEST	1850.2MHz		1880.0MHz		1909.8MHz			
CONDITIONS	dB		dB		dB			
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit		
GSM 1900	10.60	13	10.80	13	12.14	13		
GPRS 1900	9.90	13	9.03	13	9.31	13		
EDGE 1900	12.41	13	12.38	13	12.14	13		

		Peak-to-Average Ratio						
	Channel 9262(L)		Channel 9400(M)		Channel 9538(H)			
TEST	1852.4MHz		1880.0MHz		1907.6MHz			
CONDITIONS	dB		dB		dB			
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit		
WCDMA Band II	2.93	13	2.80	13	2.53	13		
HSUPA Band II	3.55	13	3.56	13	3.64	13		
HSDPA Band II	3.55	13	3.70	13	3.47	13		

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		Peak-to-Average Ratio							
	Channel 4132(L)		Channel	4183(M)	Channel 4233(H)				
TEST	826.4MHz		836.6MHz		846.6MHz				
CONDITIONS	dB		dB		dB				
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit			
WCDMA Band V	3.19	13	3.08	13	3.16	13			
HSUPA Band V	3.75	13	3.86	13	3.35	13			
HSDPA Band V	3.95	13	3.86	13	3.80	13			

	Peak-to-Average Ratio						
	Channel	18607(L)	Channel 18900(M)		Channel 19193(H)		
TEST	1850.7MHz		1880.0MHz		1909.3MHz		
CONDITIONS	dl	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 2/BW:1.4M	5.55	13	5.73	13	5.12	13	

	Peak-to-Average Ratio						
	Channel	18615(L)	Channel 18900(M)		Channel 19185(H)		
TEST	1851.5MHz		1880.0MHz		1908.5MHz		
CONDITIONS	d	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 2/BW:3M	5.58	13	5.84	13	5.44	13	

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	Peak-to-Average Ratio						
	Channel	19975(L)	Channel 20175(M)		Channel 20375(H)		
TEST	1852.5MHz		1880.0MHz		1907.5 MHz		
CONDITIONS	dB		dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 2/BW:5M	5.91	13	6.01	13	5.80	13	

	Peak-to-Average Ratio						
	Channel 2	20000 (L)	Channel 20175(M)		Channel 20350 (H)		
TEST	1855.0 MHz		1880.0 MHz		1905.0 MHz		
CONDITIONS	d	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 2/BW:10M	6.12	13	6.00	13	6.04	13	

	Peak-to-Average Ratio						
	Channel	20025(L)	Channel 20175(M)		Channel 20325(H)		
TEST	1857.5 MHz		1880.0 MHz		1902.5 MHz		
CONDITIONS	d	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 2/BW:15M	6.61	13	6.58	13	6.68	13	

	Peak-to-Average Ratio						
	Channel	20050(L)	Channel 20175(M)		Channel 20300(H)		
TEST	1860.0 MHz		1880.0 MHz		1900.0 MHz		
CONDITIONS	d	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 2/BW:20M	6.99	13	7.06	13	7.05	13	



	Peak-to-Average Ratio						
	Channel	20407(L)	Channel 2	Channel 20525(M)		Channel 20643(H)	
TEST	824.7MHz		836.5MHz		848.3MHz		
CONDITIONS	d	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 5/BW:1.4M	6.71	13	6.56	13	6.50	13	

	Peak-to-Average Ratio						
	Channel 2	20415 (L)	Channel 20525 (M)		Channel 20643 (H)		
TEST	825.5MHz		836.5MHz		847.5		
CONDITIONS	d	В	dB		dB		
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit	
BAND 5/BW:3M	6.66	13	6.56	13	6.55	13	

	Peak-to-Average Ratio					
	Channel 20425(L)		Channel 20525(M)		Channel 20625(H)	
TEST	826.5MHz		836.5MHz		846.5 MHz	
CONDITIONS	dB		dB		dB	
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit
BAND 5/BW:5M	6.61	13	6.71	13	6.67	13

	Peak-to-Average Ratio					
	Channel 20450 (L)		Channel 20525(M)		Channel 20600 (H)	
TEST	829.0 MHz		836.5 MHz		844.0 MHz	
CONDITIONS	dB		dB		dB	
Tnom / Vnom	Measured	Limit	Measured	Limit	Measured	Limit
BAND 5/BW:10M	6.47	13	6.62	13	6.56	13



13.5.2 Measurement Results:

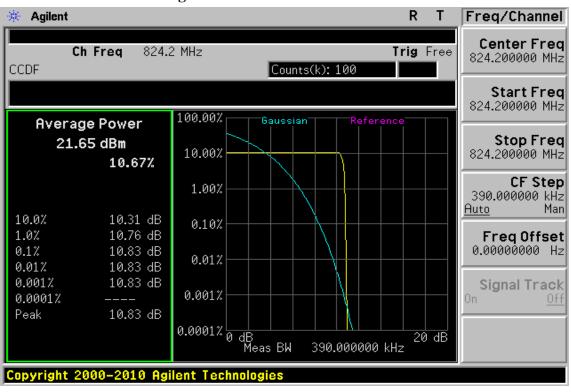
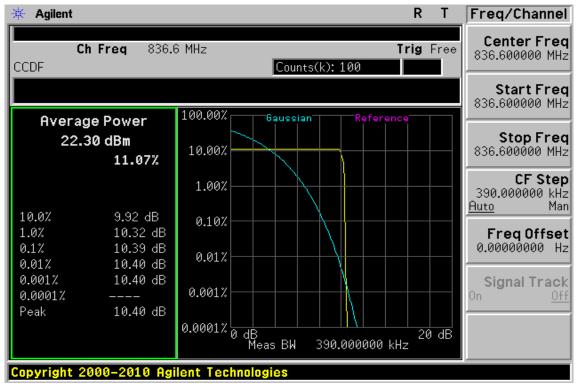


Figure 13-1: GSM 850 Channel Low





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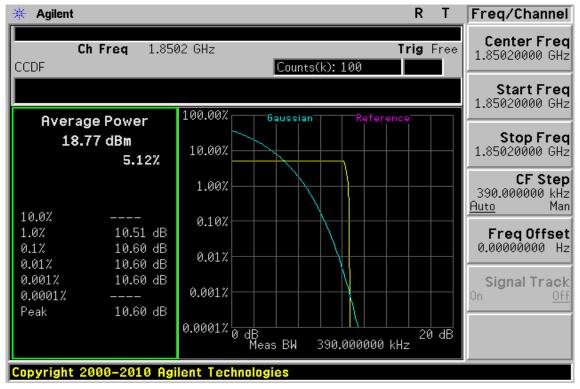
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Figure 13-3: GSM 850 Channel High

Figure 13-4: GSM 1900 Channel Low



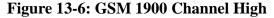
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Figure 13-5: GSM 1900 Channel Mid





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Figure 13-7: GPRS 850 Channel Low

Figure 13-8: GPRS 850 Channel Mid



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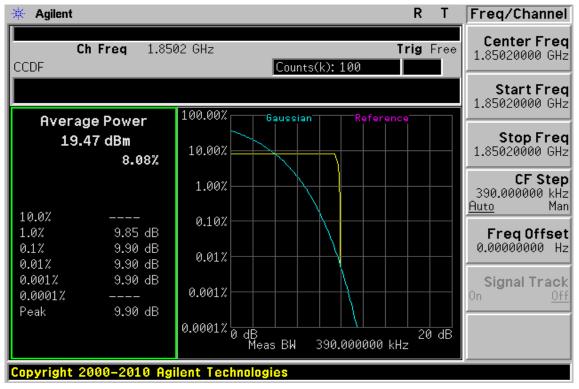
SGS Taiwan Ltd.	No. 134, wukungkoad, New Laipe	lindustrialPark, wukuDistrict, ivew LaipeiCity	/,1alWan24803/新北市五股區新北產業	al區五工路 134 3
台灣檢驗科技股份有限公司	t (886-2) 2299-3279	f (886-2) 2298-0488	www.tw.sgs.com	





Figure 13-9: GPRS 850 Channel High

Figure 13-10: GPRS 1900 Channel Low



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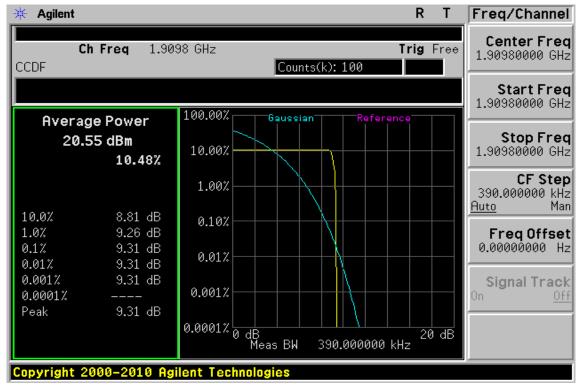
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Figure 13-11 GPRS 1900 Channel Mid

Figure 13-12: GPRS 1900 Channel High



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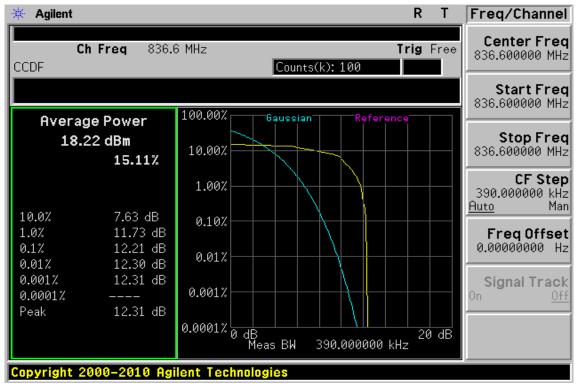
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Figure 13-13: EDGE 850 Channel Low

Figure 13-14 EDGE 850 Channel Mid



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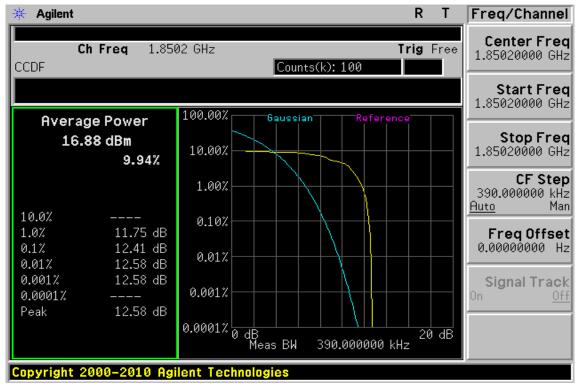
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Figure 13-15: EDGE 850 Channel High

Figure 13-16: EDGE 1900 Channel Low



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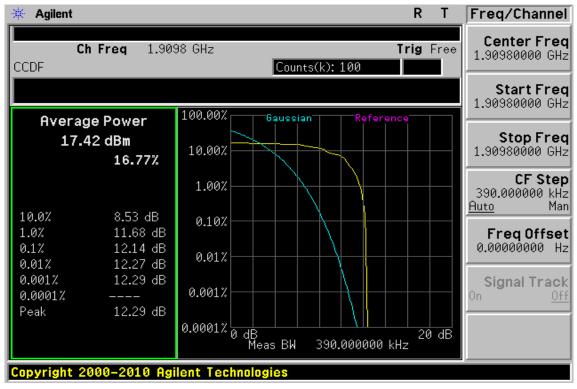
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Figure 13-18: EDGE 1900 Channel High



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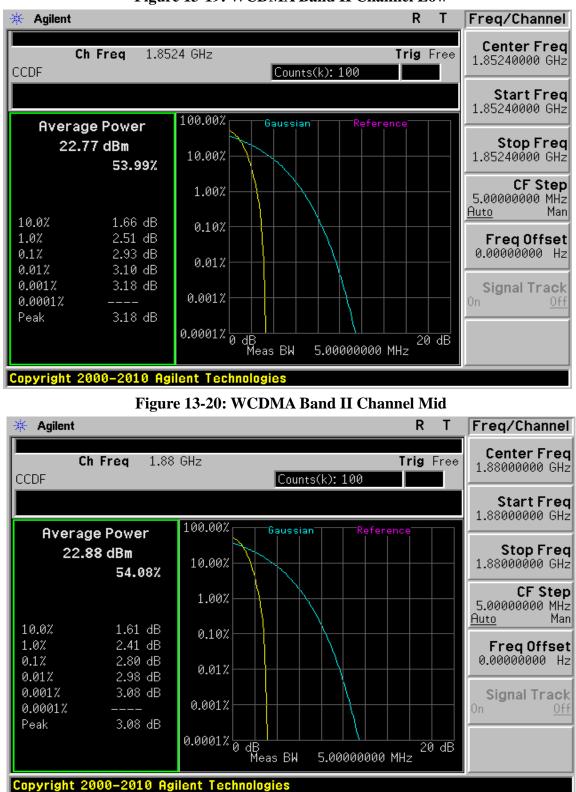


Figure 13-19: WCDMA Band II Channel Low

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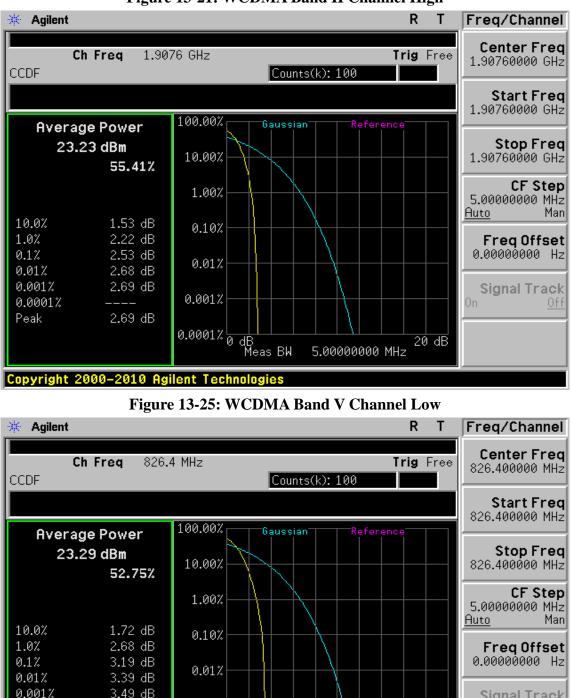


Figure 13-21: WCDMA Band II Channel High

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3.51 dB

0.0001%

Peak

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0.001%

0.0001%⊑ 0

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dB Meas BW

5.00000000 MHz

Signal Track

20 dB



10.0%

1.0%

0.1%

Peak

0.01% 0.001%

0.0001%



Figure 13-26: WCDMA Band V Channel Mid

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0.10%

0.01%

0.001%

0.0001%⊑ 0

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1.70 dB

2.66 dB

3.16 dB

3.37 dB

3.44 dB

3.44 dB

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dB Meas BW

5.00000000 MHz

Freq Offset

0.00000000 Hz

Signal Track

20 dB





Figure 13-28: HSDPA Band II Channel Low



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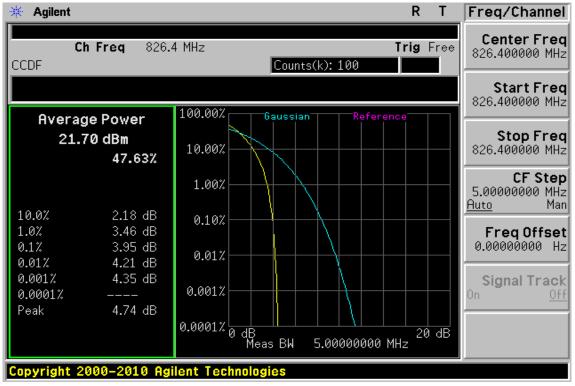
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Figure 13-30: HSDPA Band II Channel High





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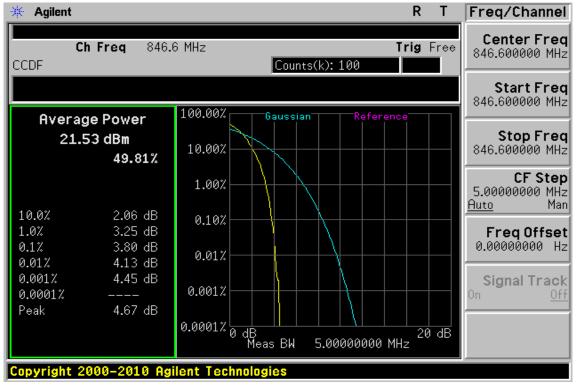
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Figure 13-35: HSDPA Band V Channel Mid

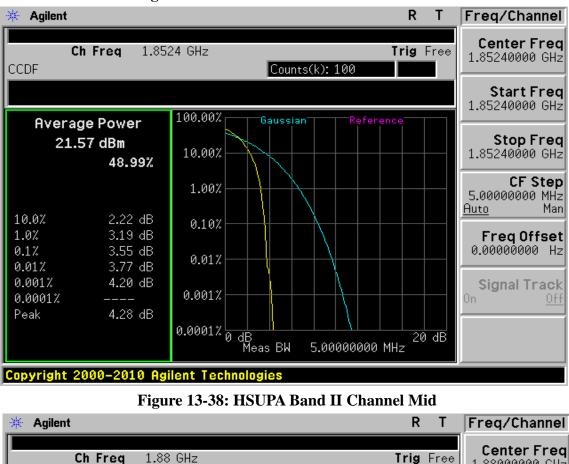




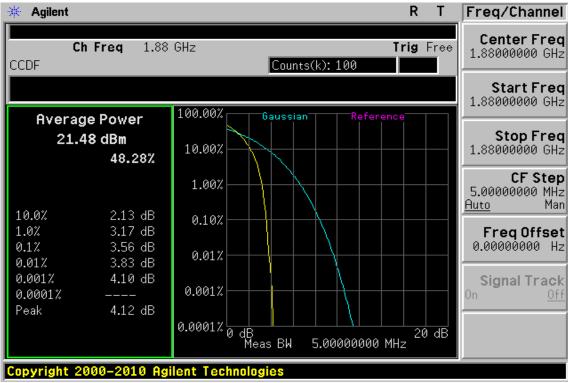
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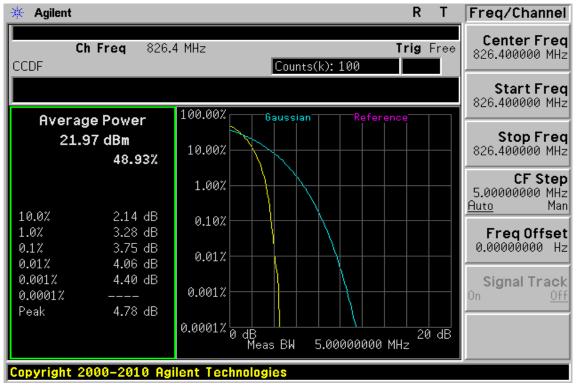
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Figure 13-39: HSUPA Band II Channel High

Figure 13-43: HSUPA Band V Channel Low



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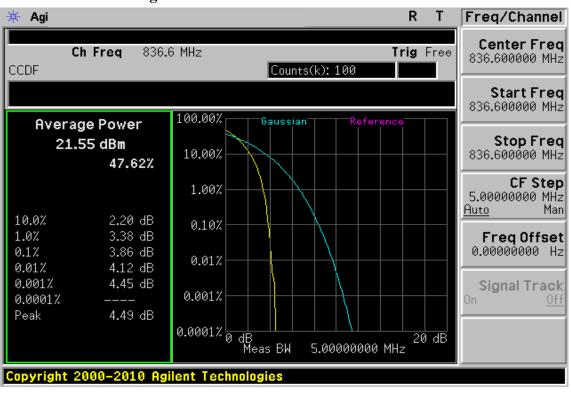
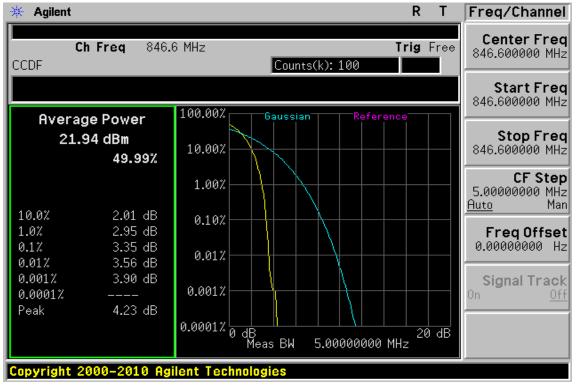


Figure 13-44: HSUPA Band V Channel Mid





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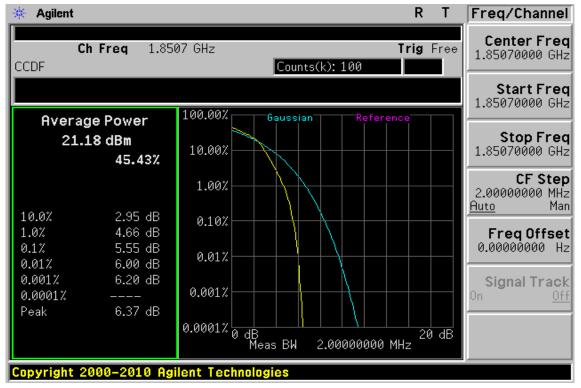
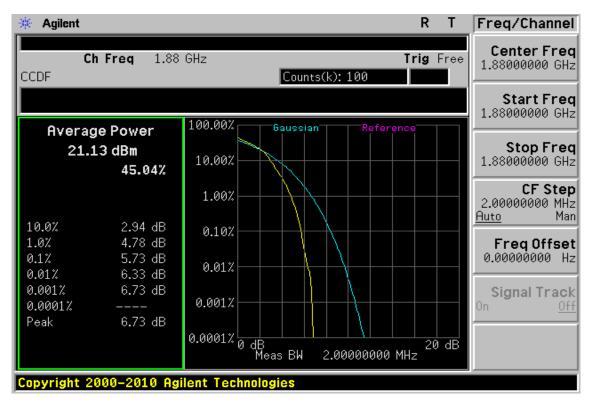
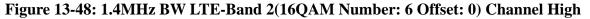


Figure 13-47: 1.4MHz BW LTE-Band 2(16QAM Number: 6 Offset: 0) Channel Mid



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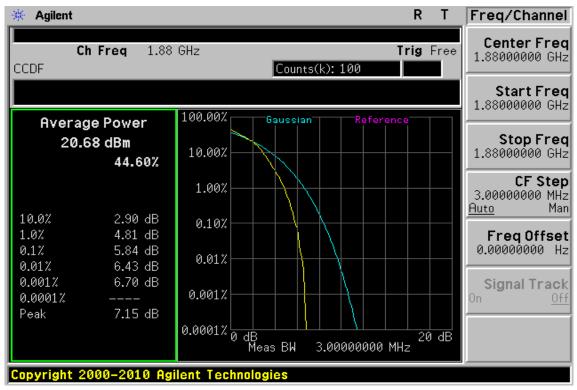
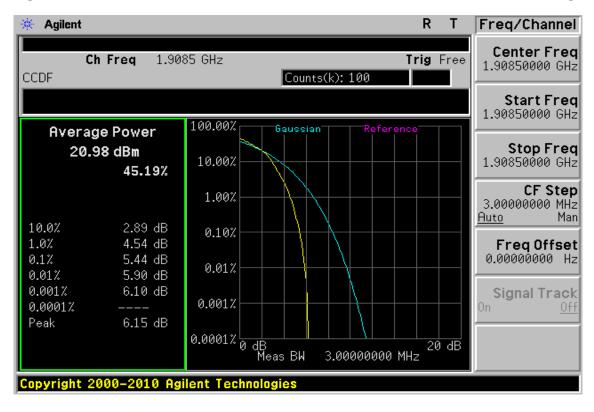


Figure 13-51: 3MHz BW LTE-Band 2(16QAM Number: 15 Offset: 0) Channel High



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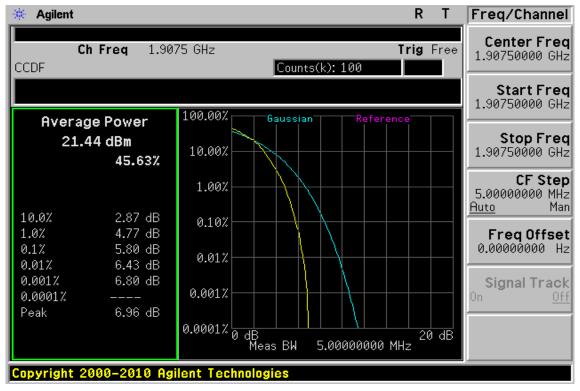




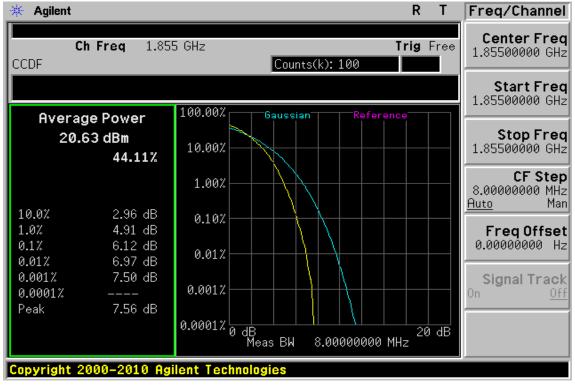
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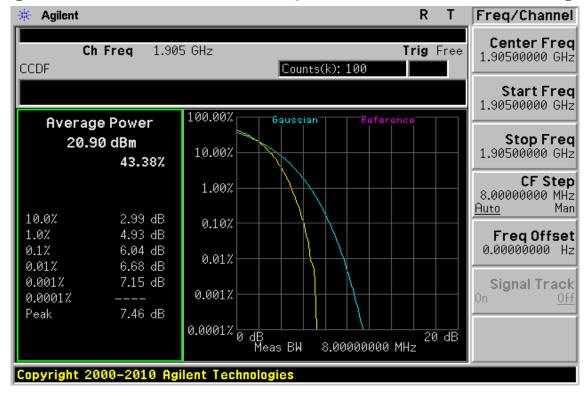
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Figure 13-56: 10MHz BW LTE-Band 2(16QAM Number: 50 Offset: 0) Channel Mid



Figure 13-57: 10MHz BW LTE-Band 2(16QAM Number: 50 Offset: 0) Channel High



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Figure 13-59: 15MHz BW LTE-Band 2(16QAM Number: 75 Offset: 0) Channel Mid



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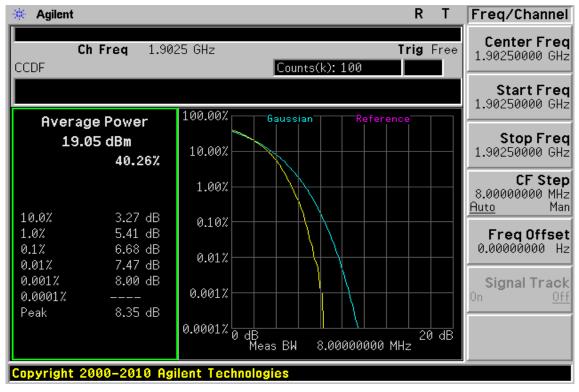
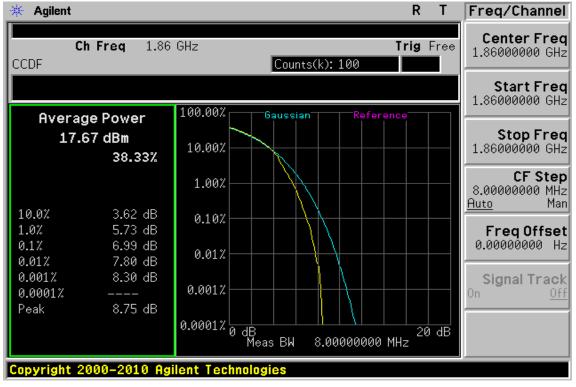


Figure 13-61: 20MHz BW LTE-Band 2(16QAM Number: 100 Offset: 0) Channel Low



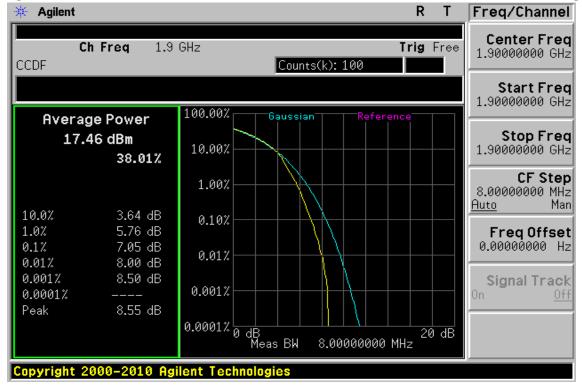
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Figure 13-62: 20MHz BW LTE-Band 2(16QAM Number: 100 Offset: 0) Channel Mid



Figure 13-63: 20MHz BW LTE-Band 2(16QAM Number: 100 Offset: 0) Channel High



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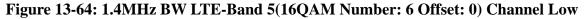
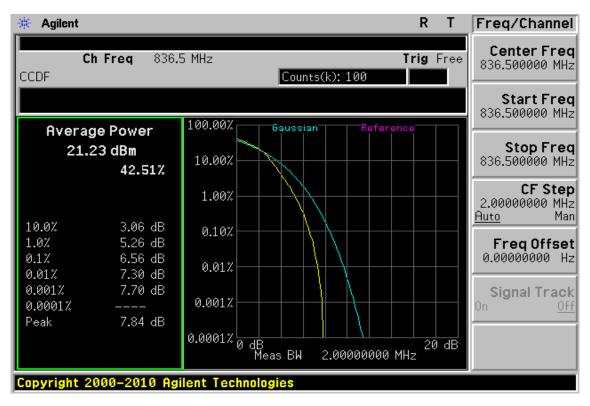


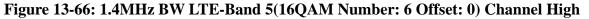


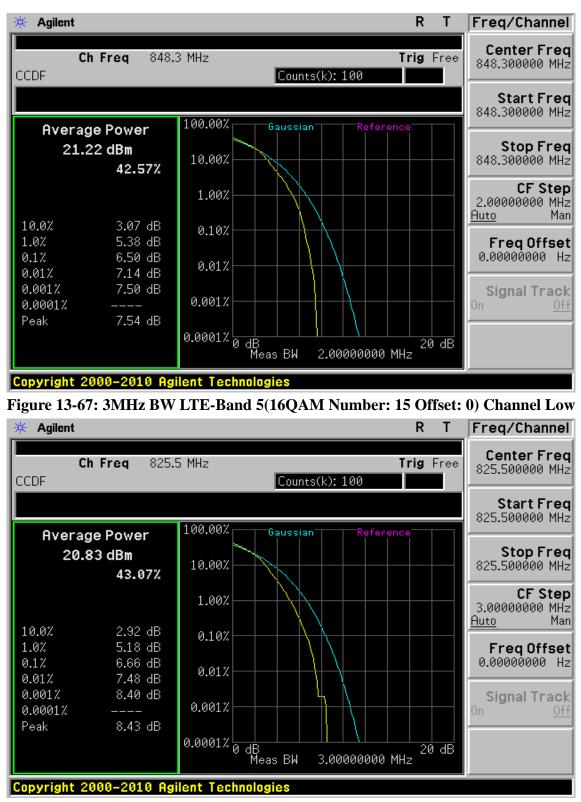
Figure 13-65: 1.4MHz BW LTE-Band 5(16QAM Number: 6 Offset: 0) Channel Mid



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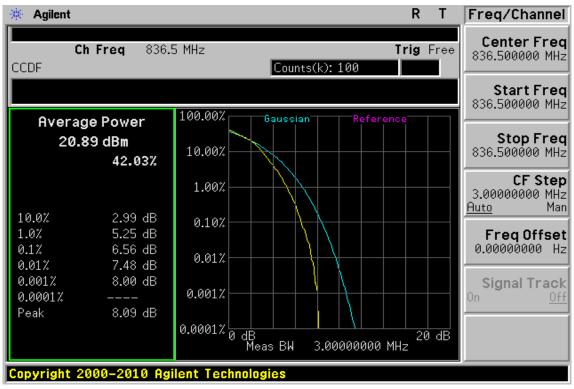
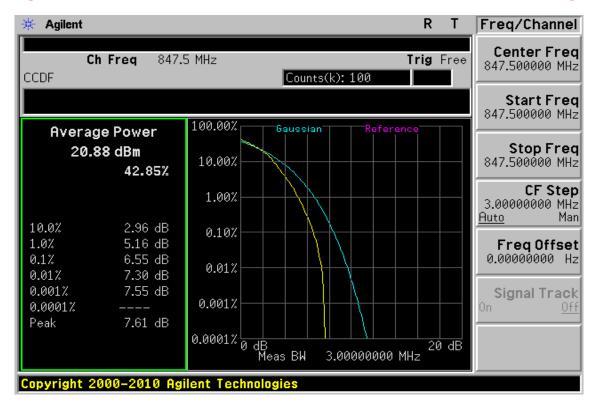


Figure 13-69: 3MHz BW LTE-Band 5(16QAM Number: 15 Offset: 0) Channel High

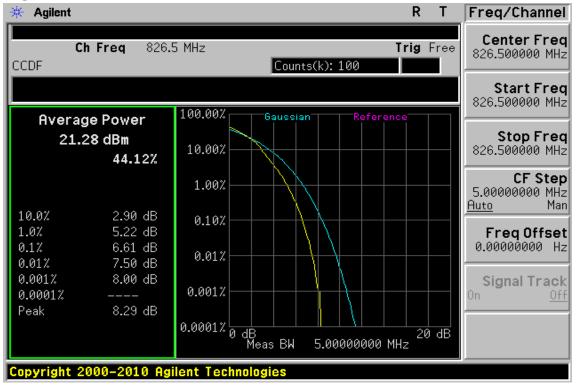


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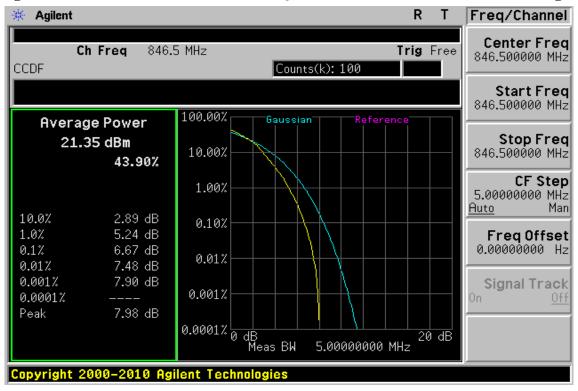




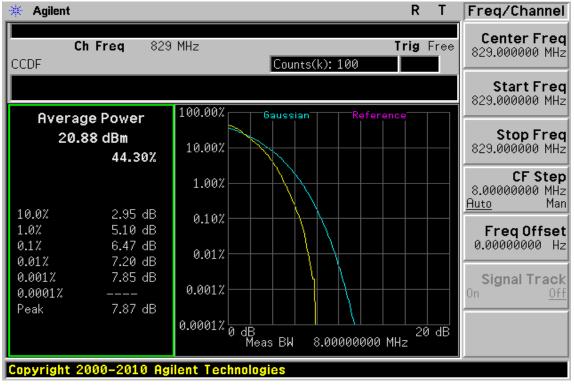
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Figure 13-74: 10MHz BW LTE-Band 5(16QAM Number: 50 Offset: 0) Channel Mid



Figure 13-75: 10MHz BW LTE-Band 5(16QAM Number: 50 Offset: 0) Channel High



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APPENDIX 1

MEASUREMENT PLOT OF RADIATED SPURIOUS EMISSION

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Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Band ARFCN **Fundamental Frequency Operation Mode** EUT Pol. :H Plane

:GSM 850 :CH 128 :824.2 MHz :TX LOW

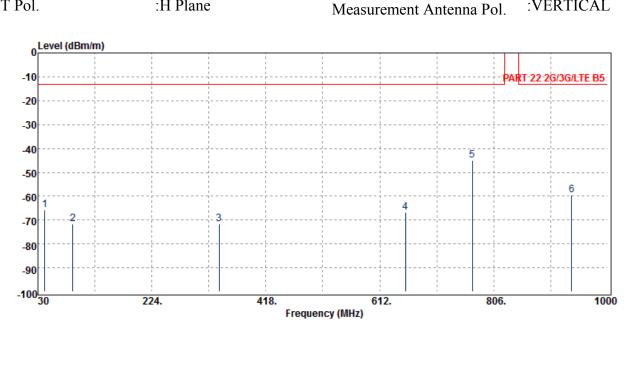
Test Date Temp./Humi. Engineer

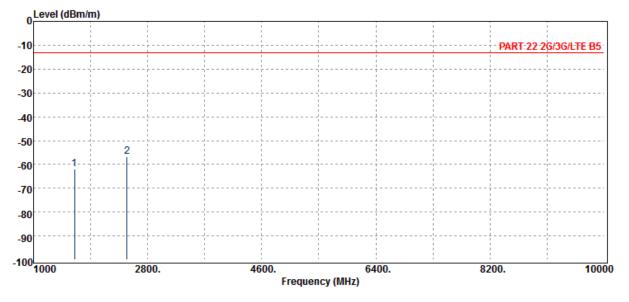
:VERTICAL

:Curry

:2014-11-26

:23 deg C / 56 RH





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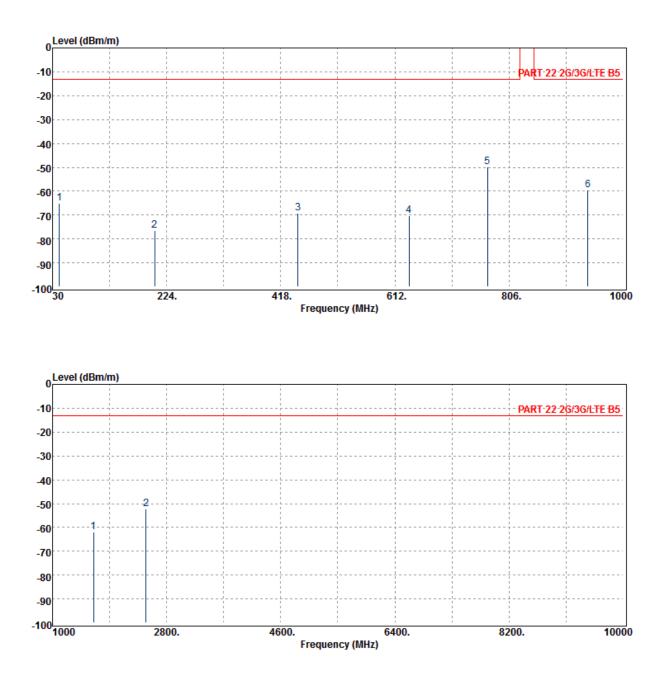
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Operation Band	:GSM 850
ARFCN	:CH 128
Fundamental Frequency	:824.2 MHz
Operation Mode	:TX LOW
EUT Pol.	:H Plane

Test Date Temp./Humi. Engineer

:2014-11-26 :23 deg C / 56 RH :Curry

Measurement Antenna Pol. :HORIZONTAL



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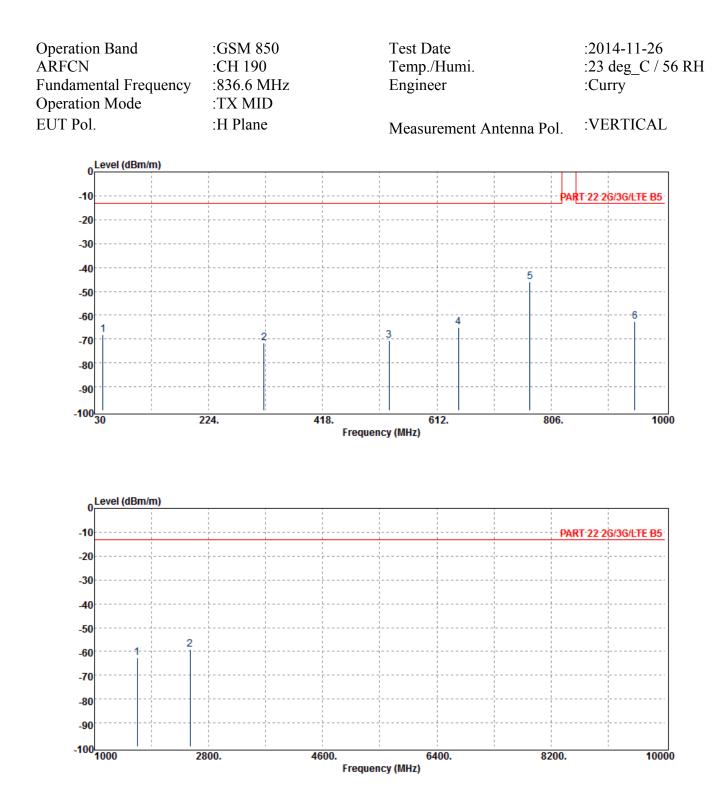
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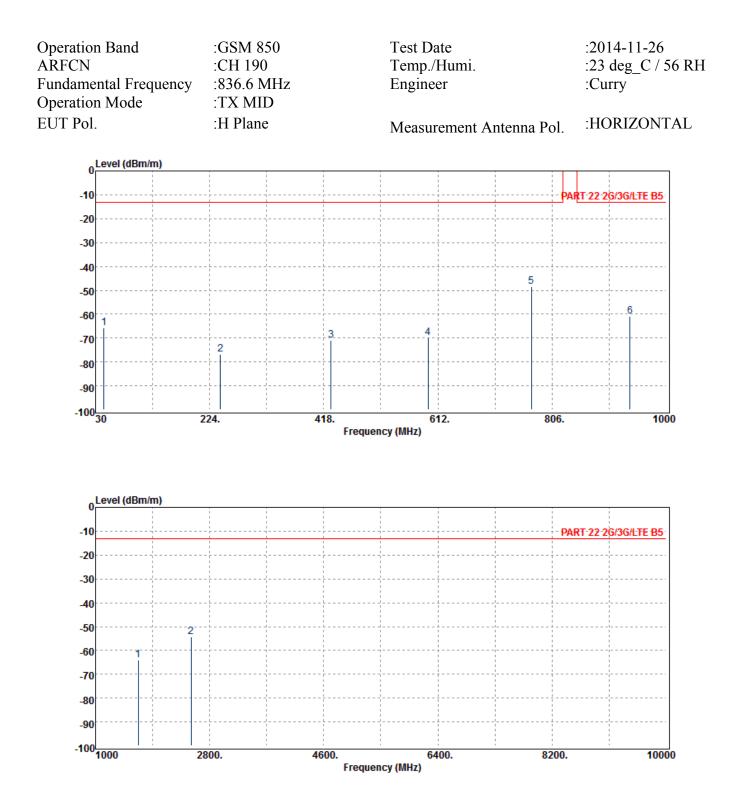
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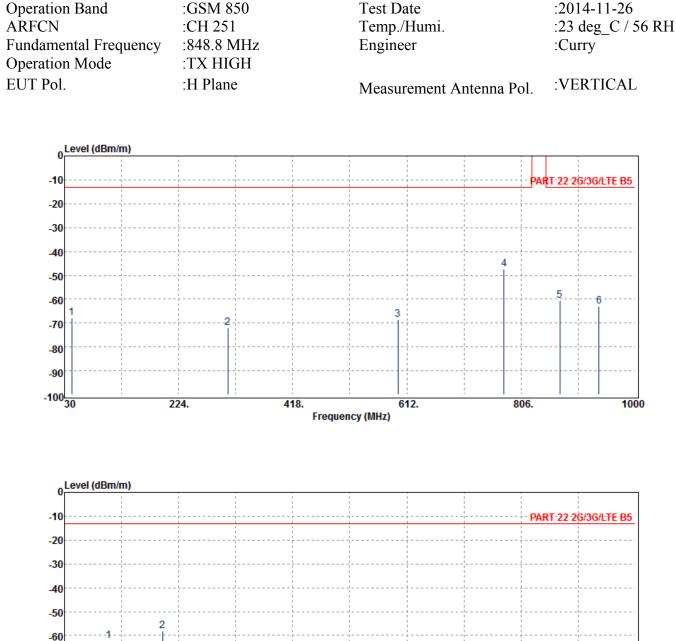


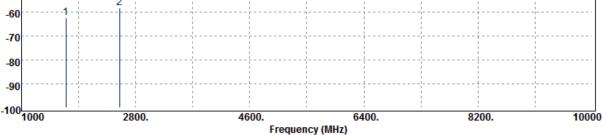
Test Date

:GSM 850

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:2014-11-26





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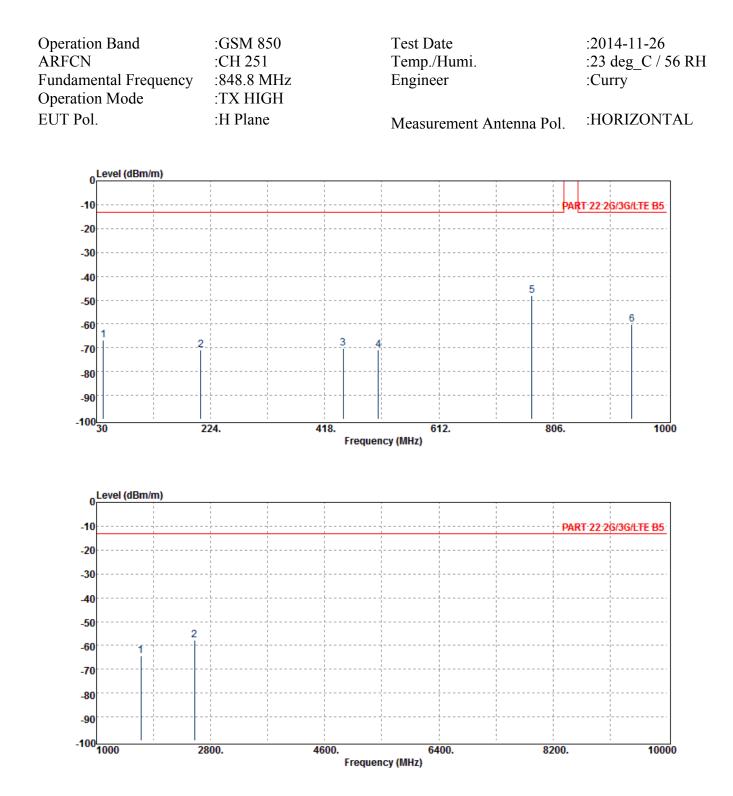
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Radiated Spurious Emission Measurement Result: GSM 1900 Mode

Operation Band ARFCN **Fundamental Frequency Operation Mode** EUT Pol.

:GSM 1900 :CH 512 :1850.2 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer

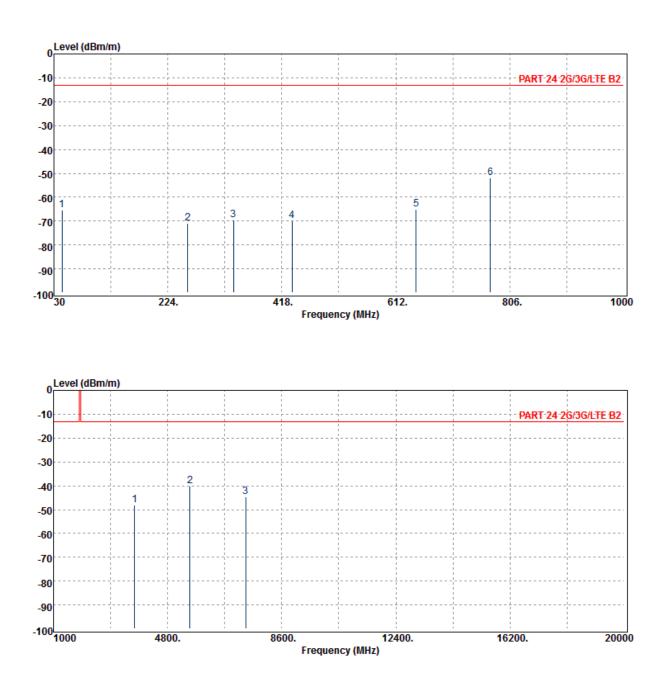
Measurement Antenna Pol.

:VERTICAL

:2014-11-26

:Curry

:23 deg C / 56 RH



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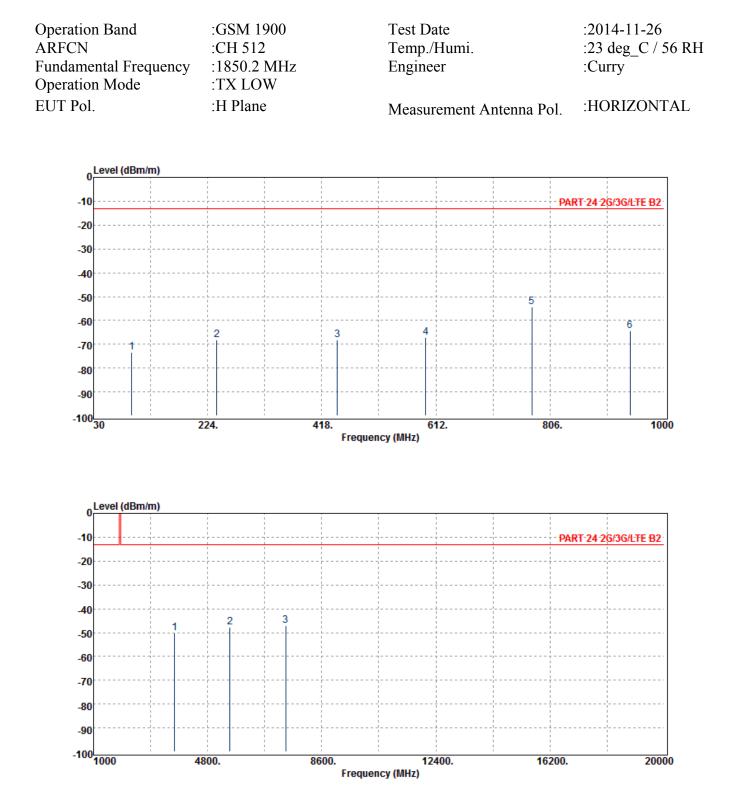
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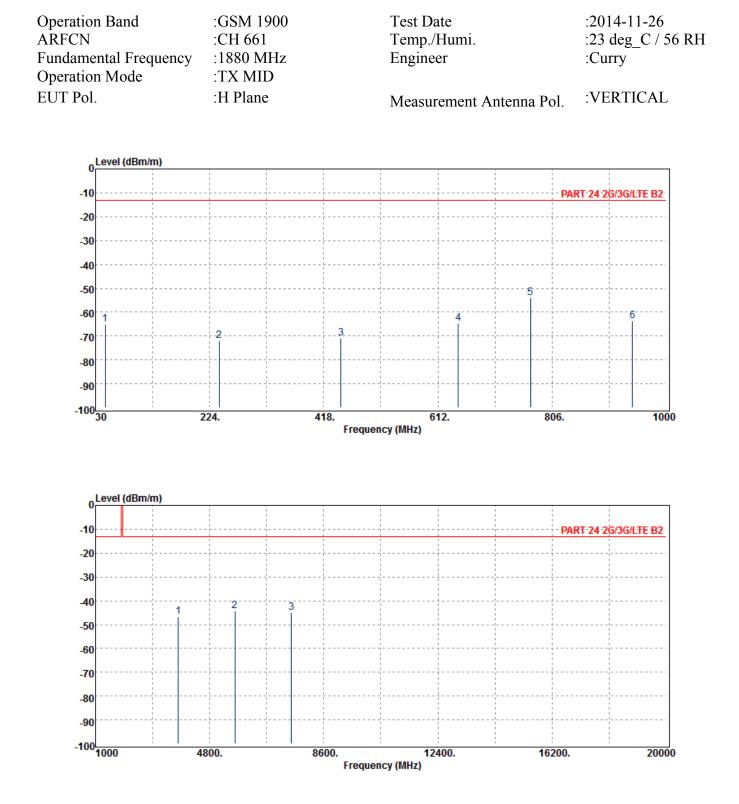
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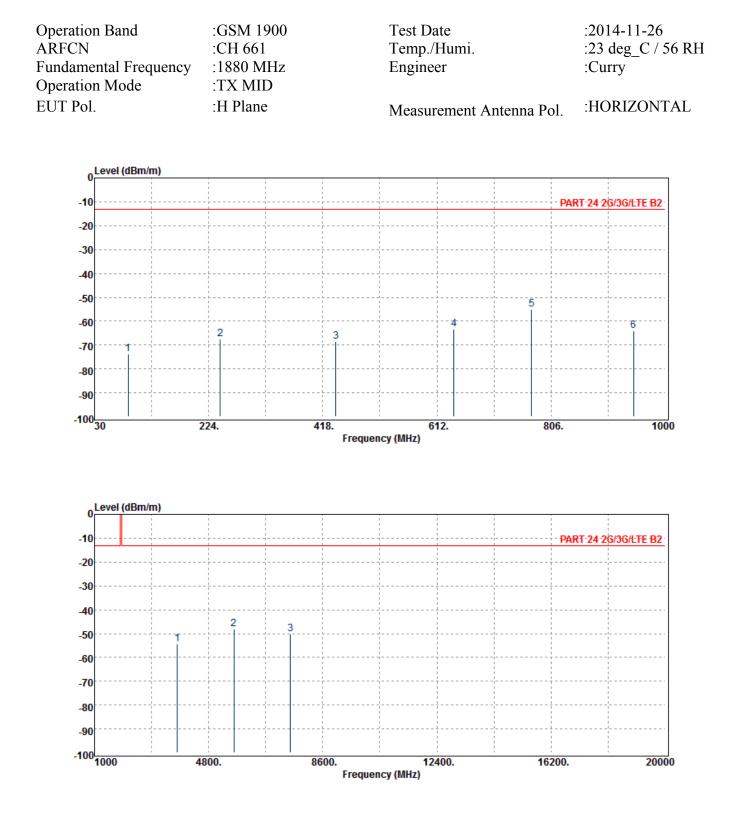
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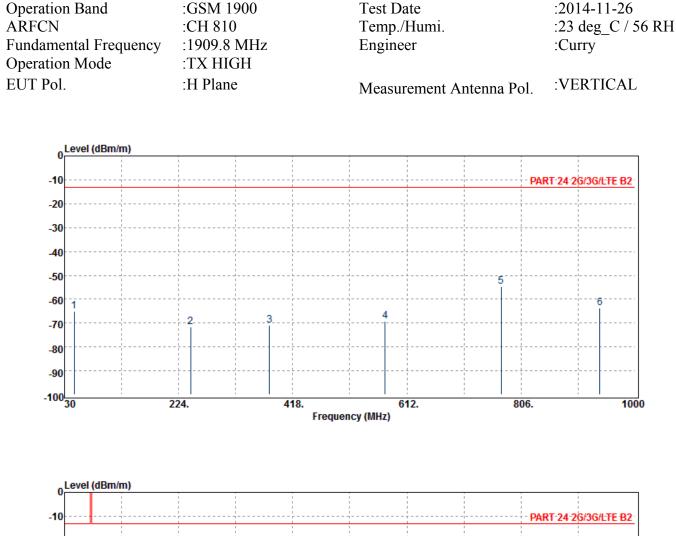
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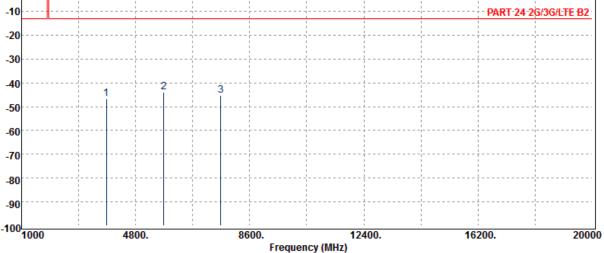
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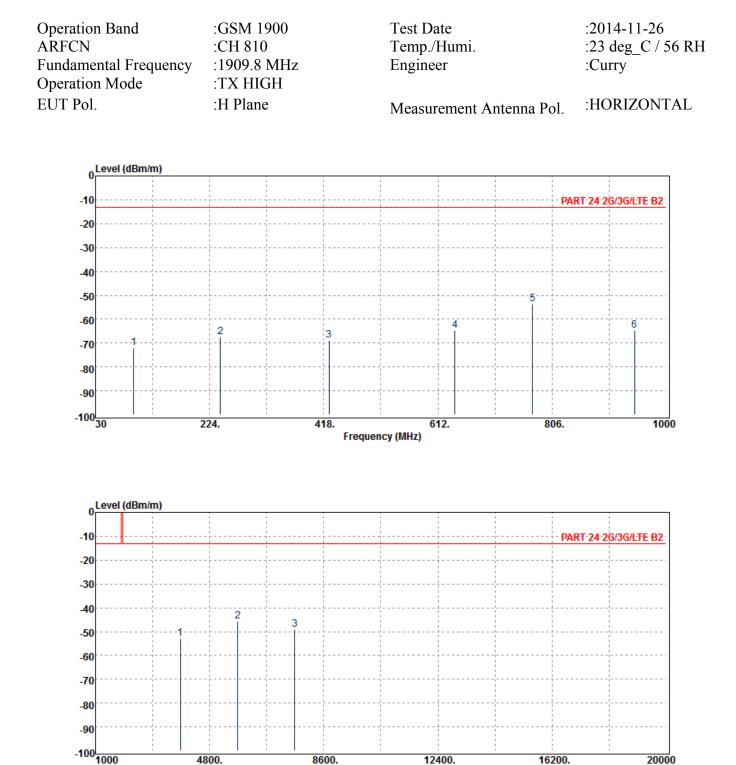
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Frequency (MHz)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band :WCDMA B2 ARFCN :CH 9262 **Fundamental Frequency** :1852.4 MHz **Operation Mode** :TX LOW EUT Pol. :H Plane

Test Date Temp./Humi. Engineer

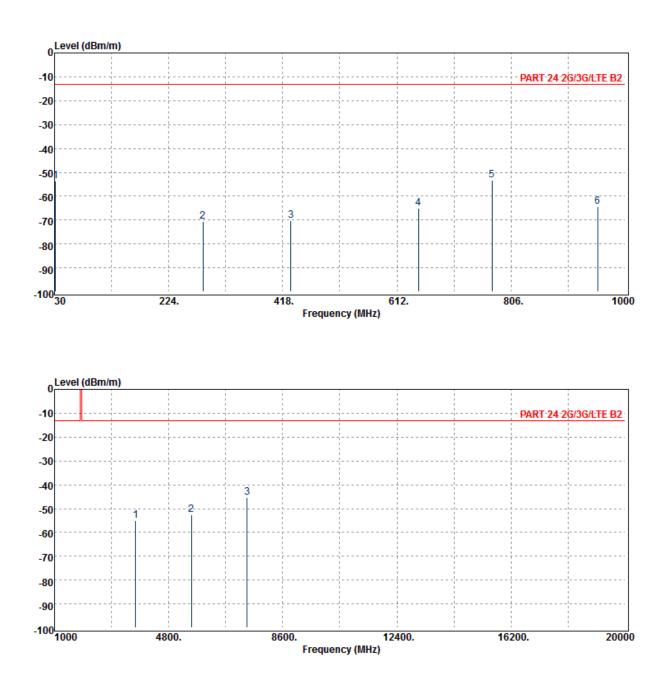
Measurement Antenna Pol.

:VERTICAL

:2014-11-26

:Curry

:23 deg C / 56 RH



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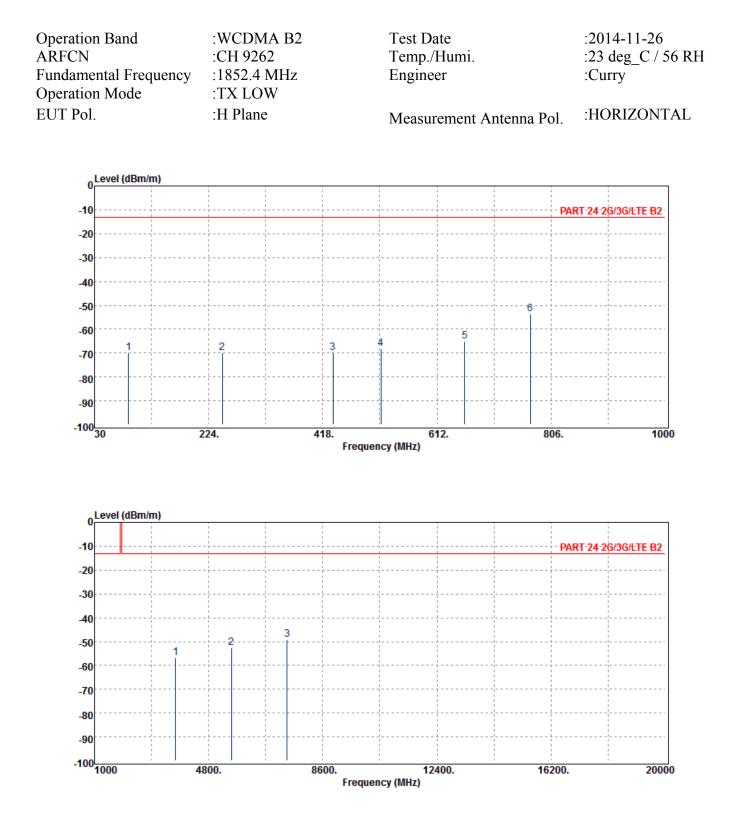
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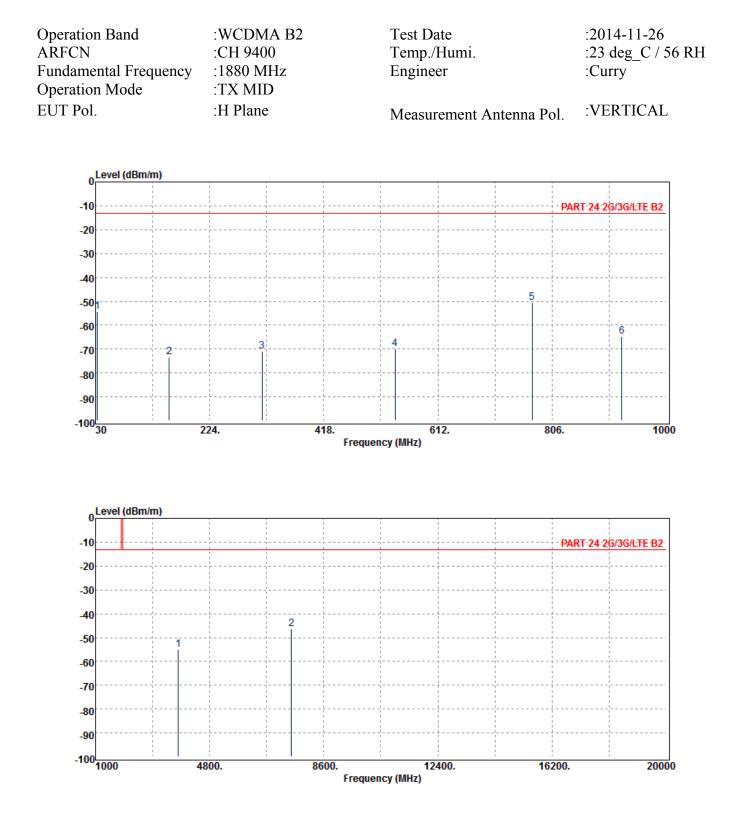
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Report No.: ER/2014/B0051 Issue Date: Jan. 09, 2015 Page: 450 of 471



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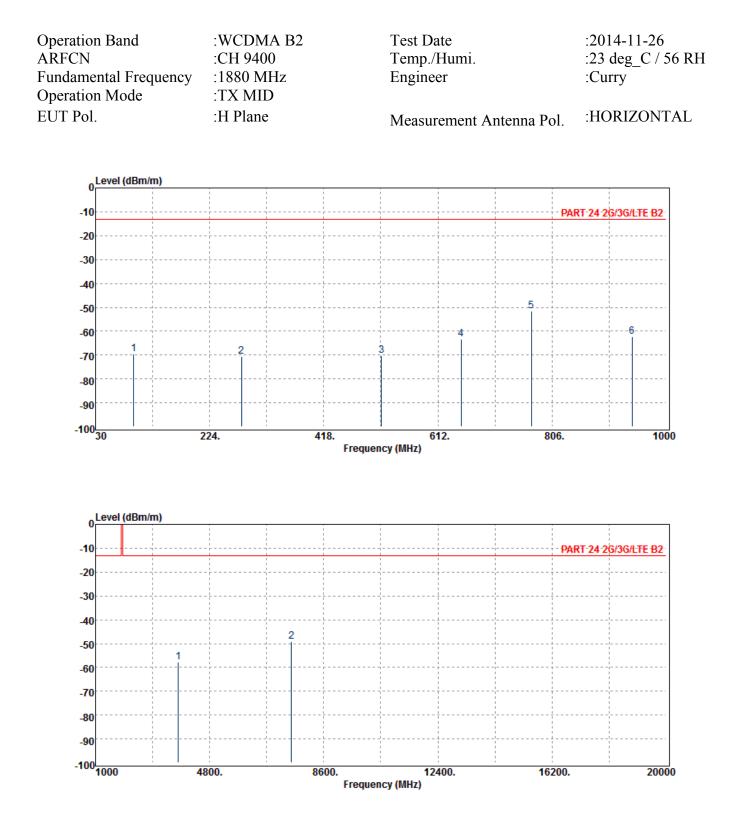
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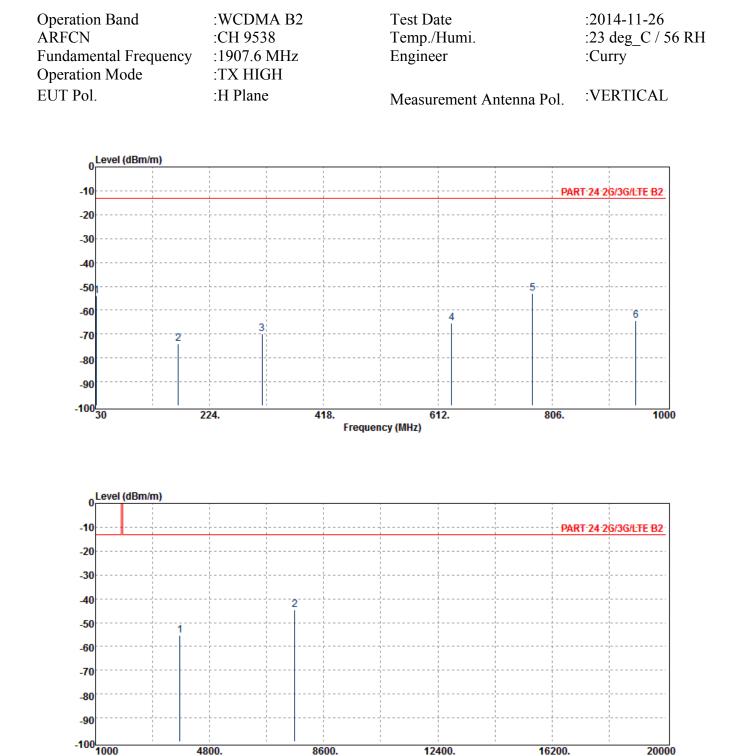
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Frequency (MHz)

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Operation Band	:WCDMA B2
ARFCN	:CH 9538
Fundamental Frequency	:1907.6 MHz
Operation Mode	:TX HIGH
EUT Pol.	:H Plane

Test Date Temp./Humi. Engineer

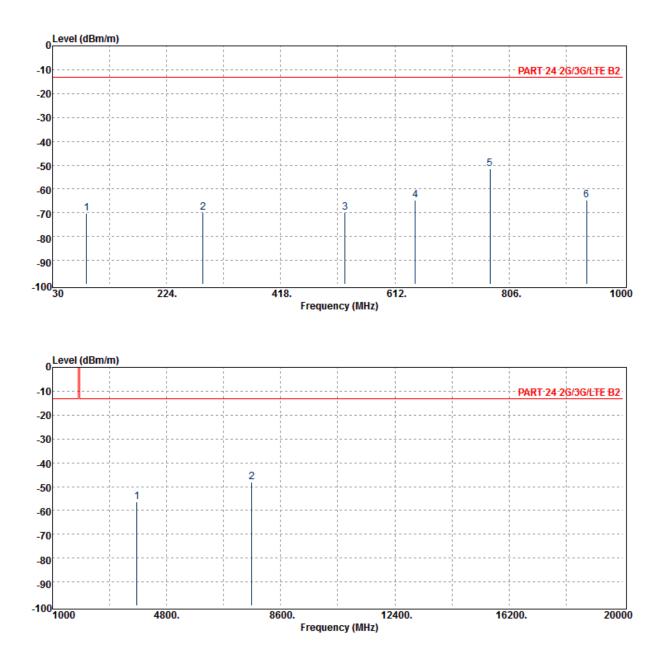
Measurement Antenna Pol.

:HORIZONTAL

:23 deg C / 56 RH

:2014-11-26

:Curry



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Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band ARFCN **Fundamental Frequency Operation Mode** EUT Pol.

:WCDMA B5 :CH 4132 :826.4 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer

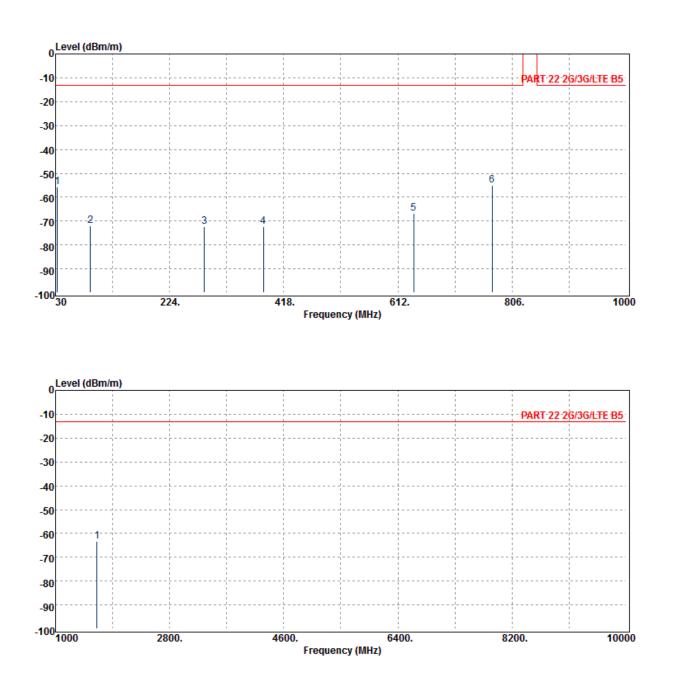
Measurement Antenna Pol.

:VERTICAL

:2014-11-26

:Curry

:23 deg C / 56 RH



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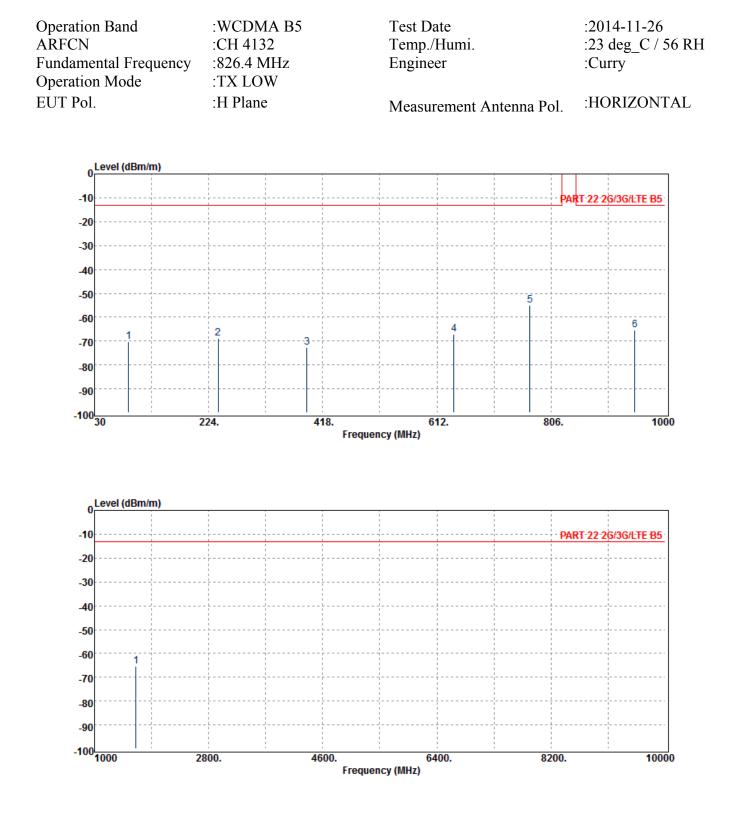
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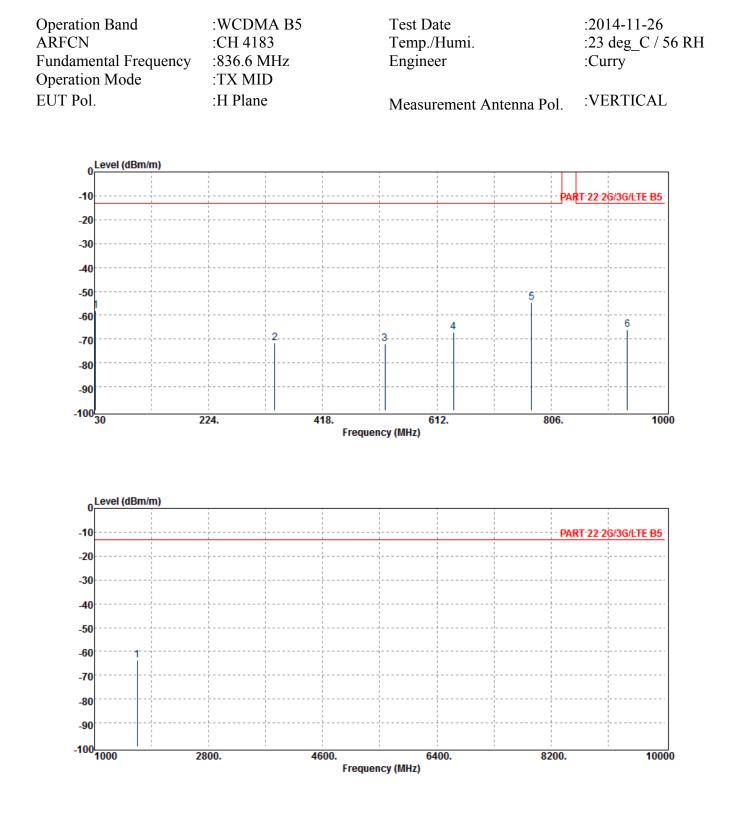
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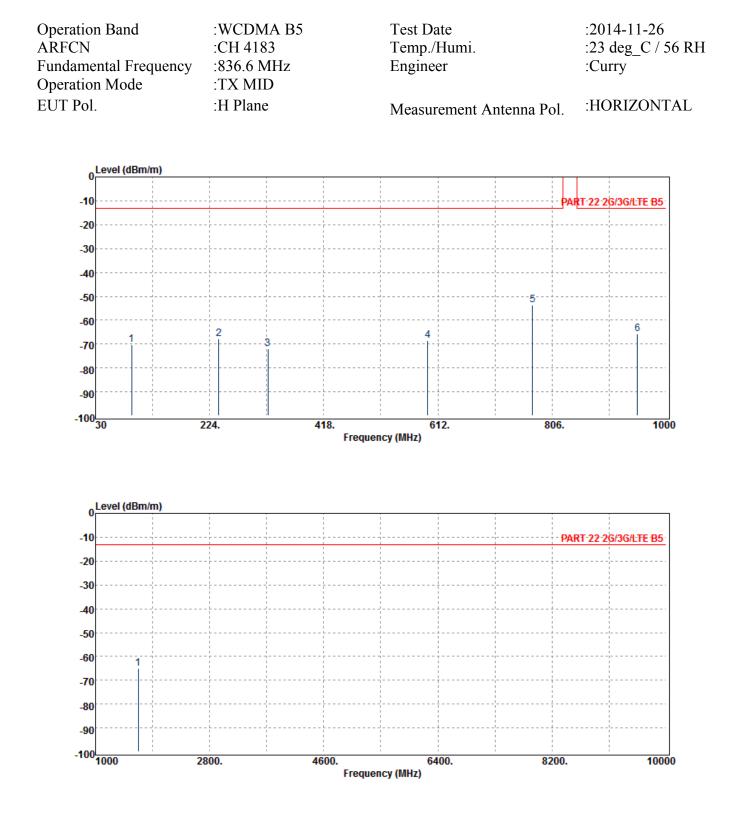
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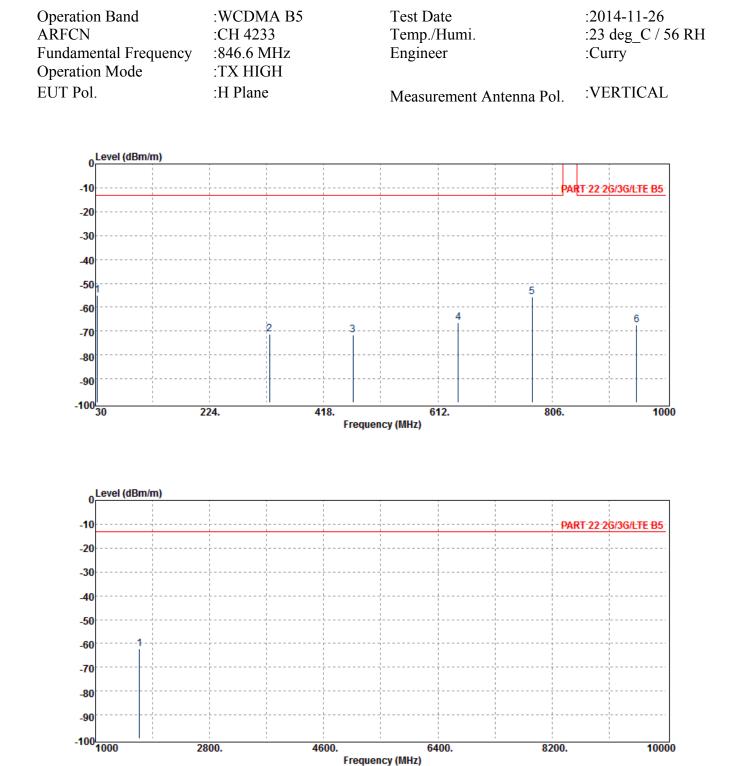
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Operation Band

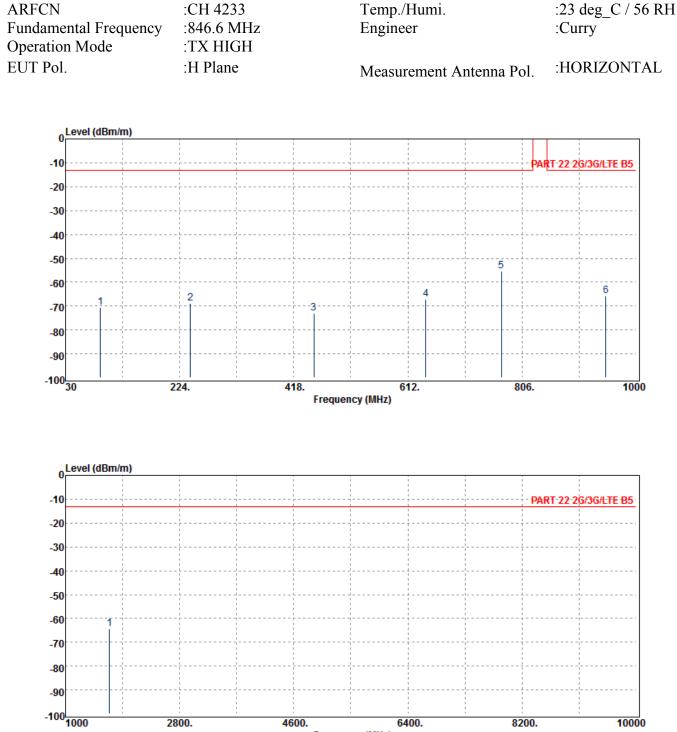
FCC ID: PY7-PM0855

Test Date

:WCDMA B5

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:2014-11-26



Frequency (MHz)

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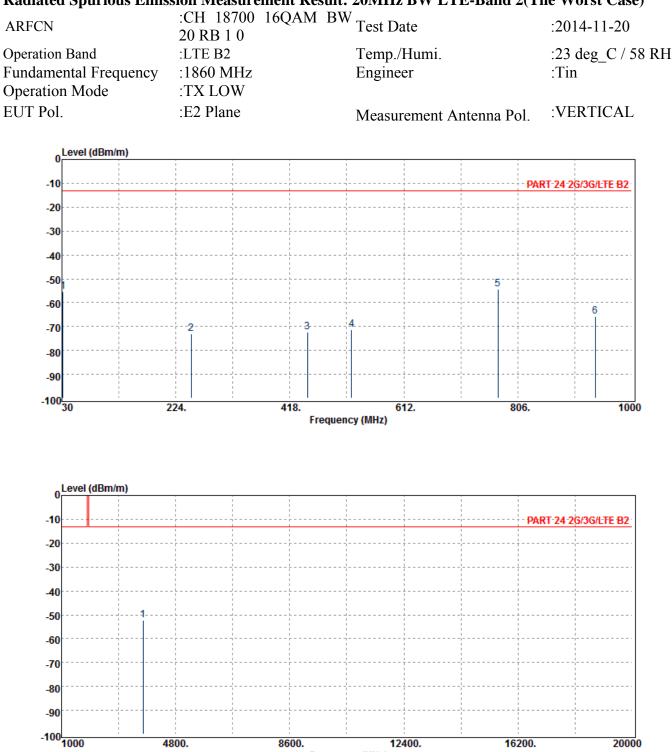
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Radiated Spurious Emission Measurement Result: 20MHz BW LTE-Band 2(The Worst Case)



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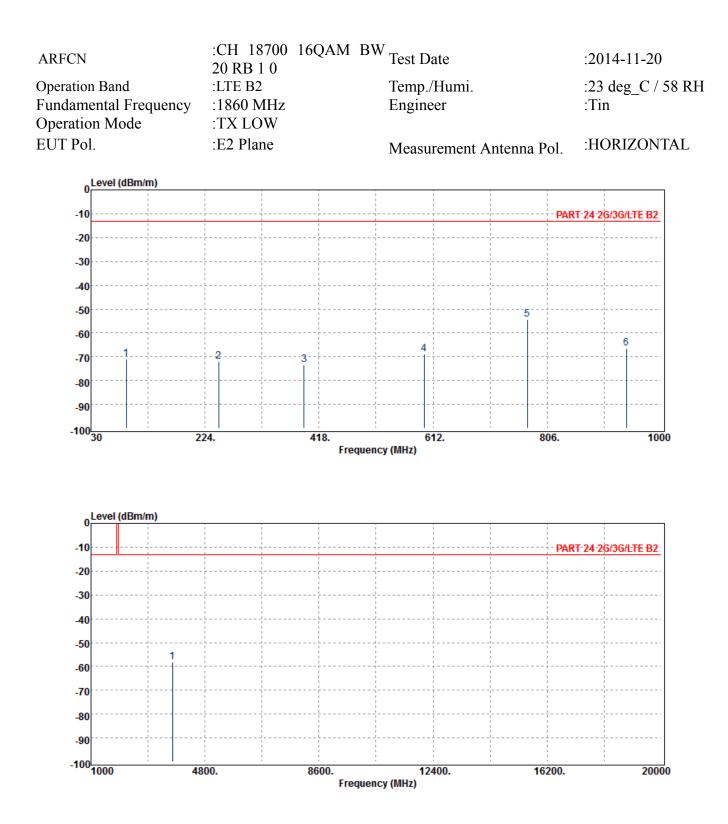
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Frequency (MHz)

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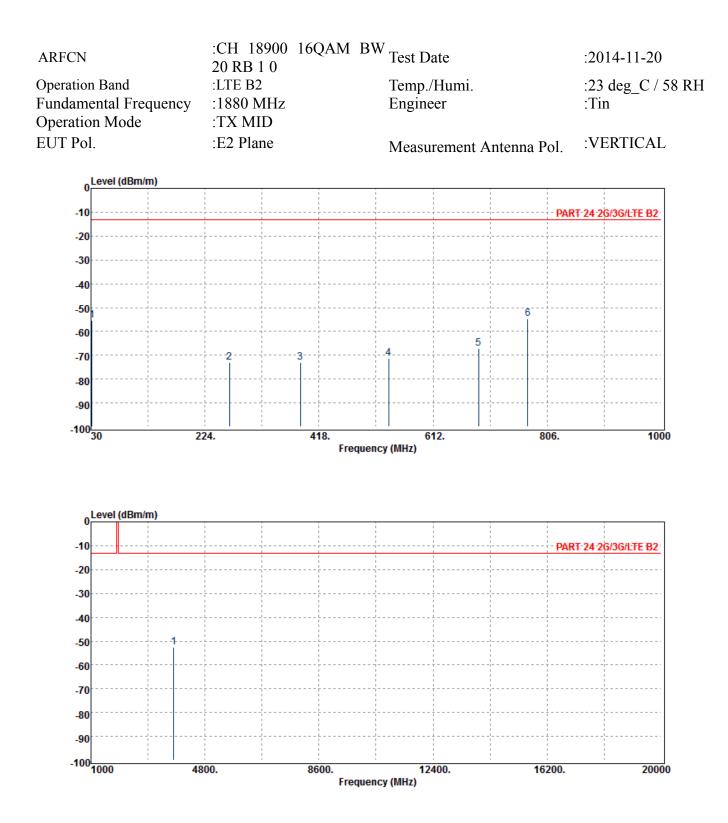
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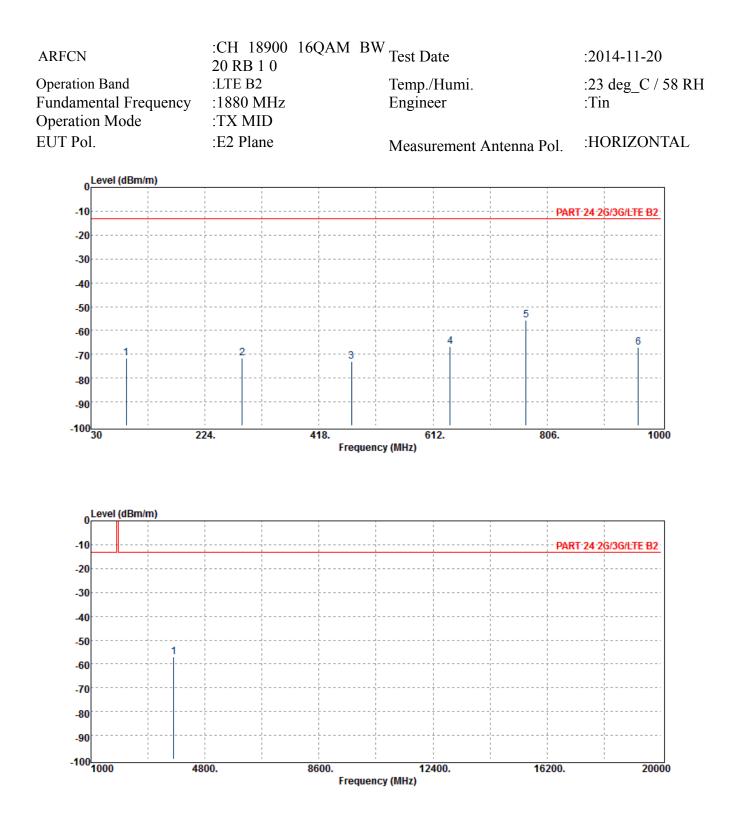
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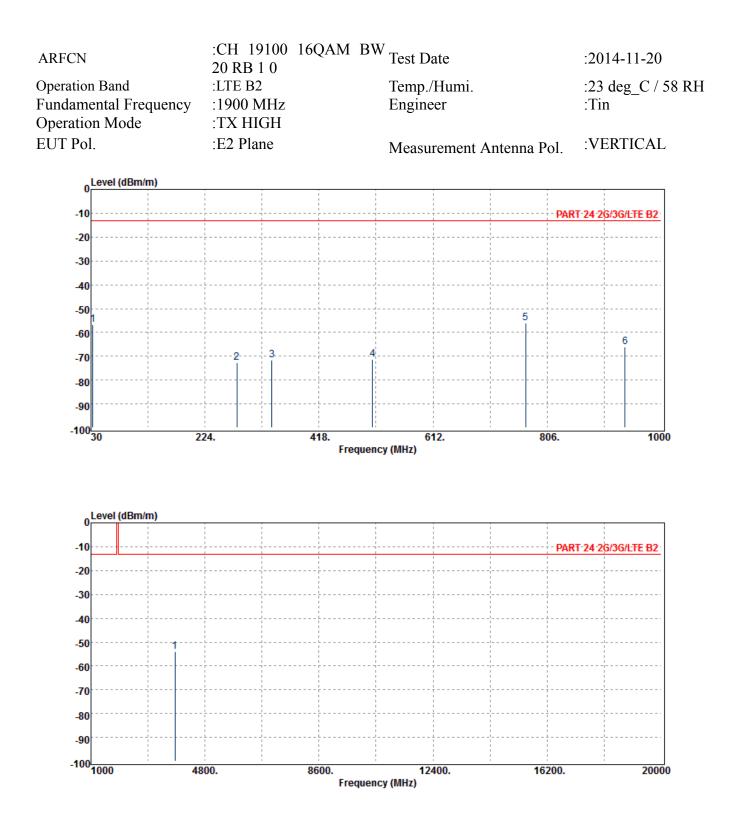
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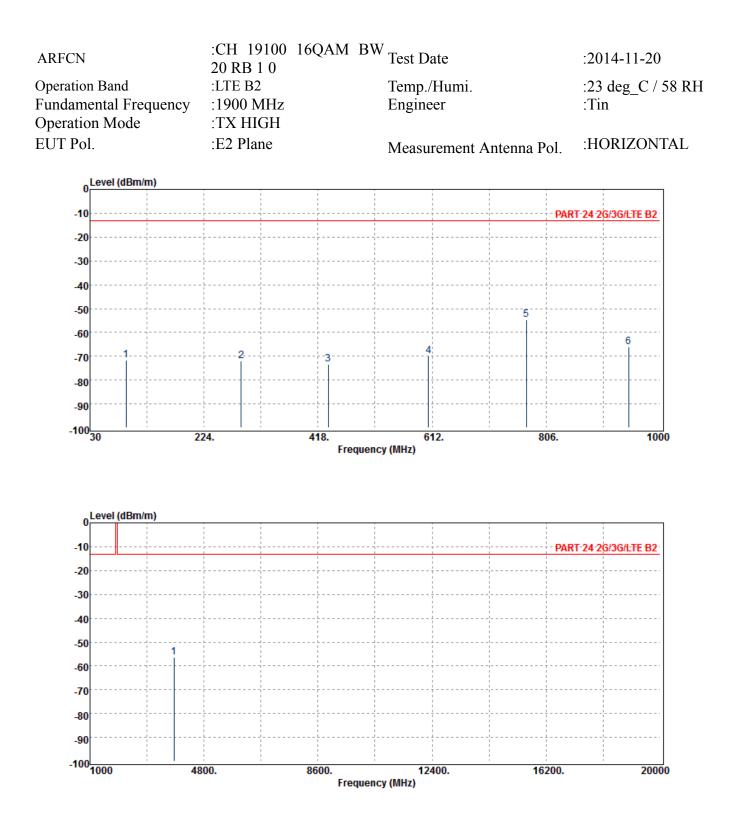
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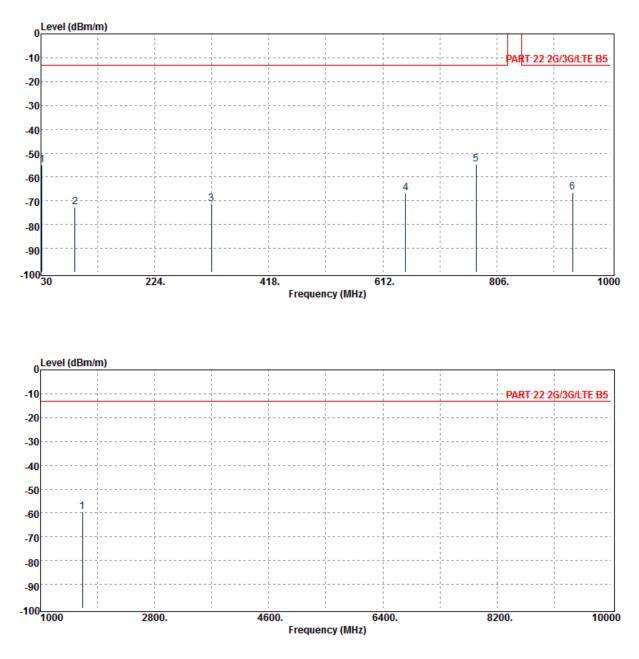
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Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band5(The Worst Case)

ARFCN	:CH 20450 16QAM BW 10 RB 1 0	V Test Date	:2014-11-26
Operation Band	:LTE B5	Temp./Humi.	:23 deg_C / 58 RH
Fundamental Frequency	:829 MHz	Engineer	:Curry
Operation Mode	:TX LOW		
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL



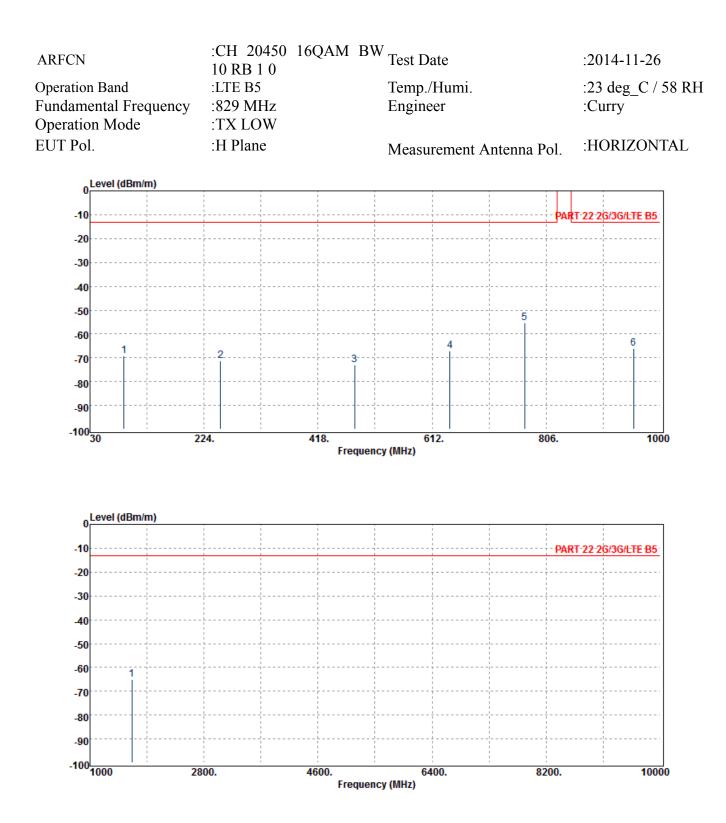
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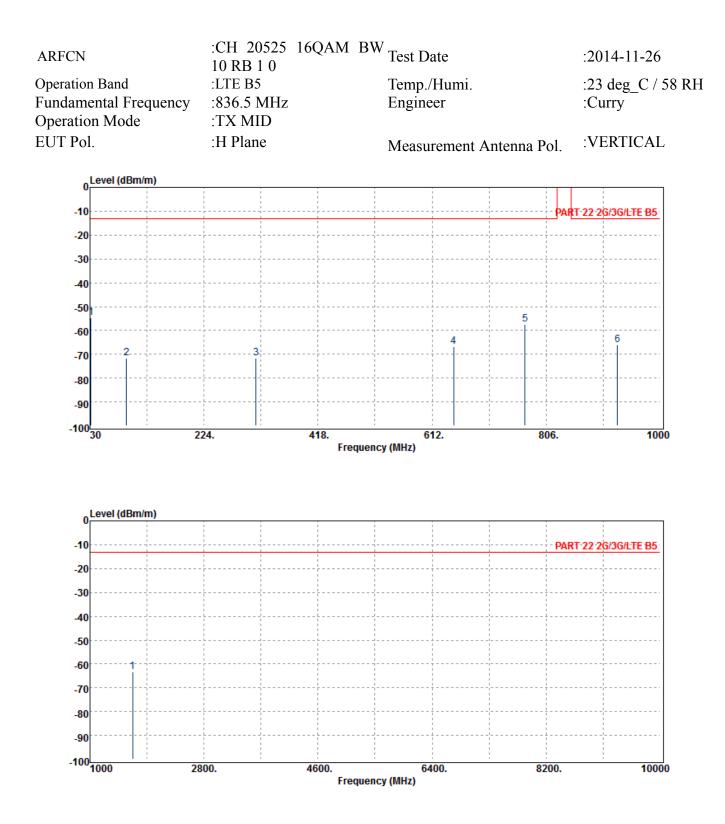
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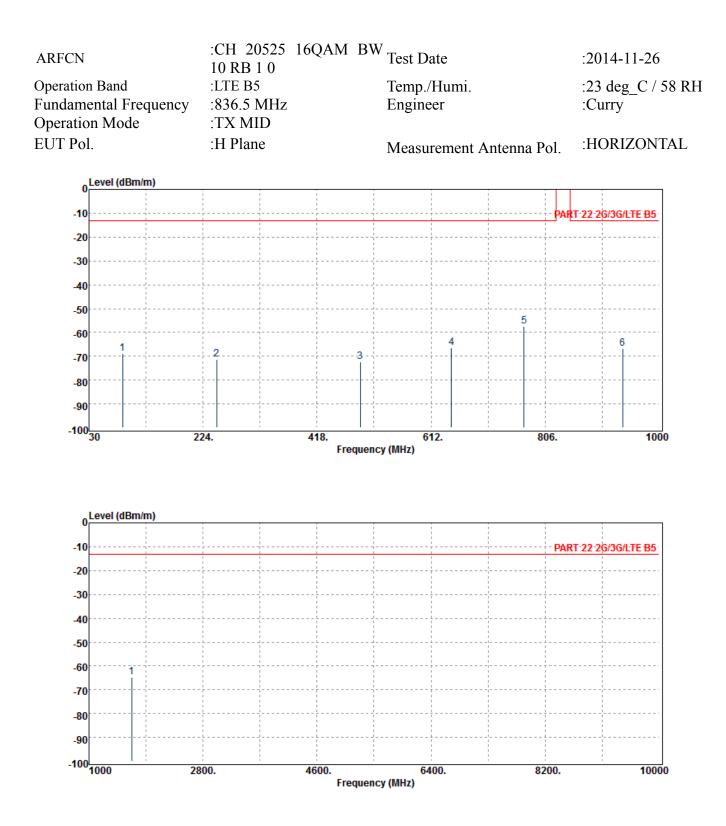
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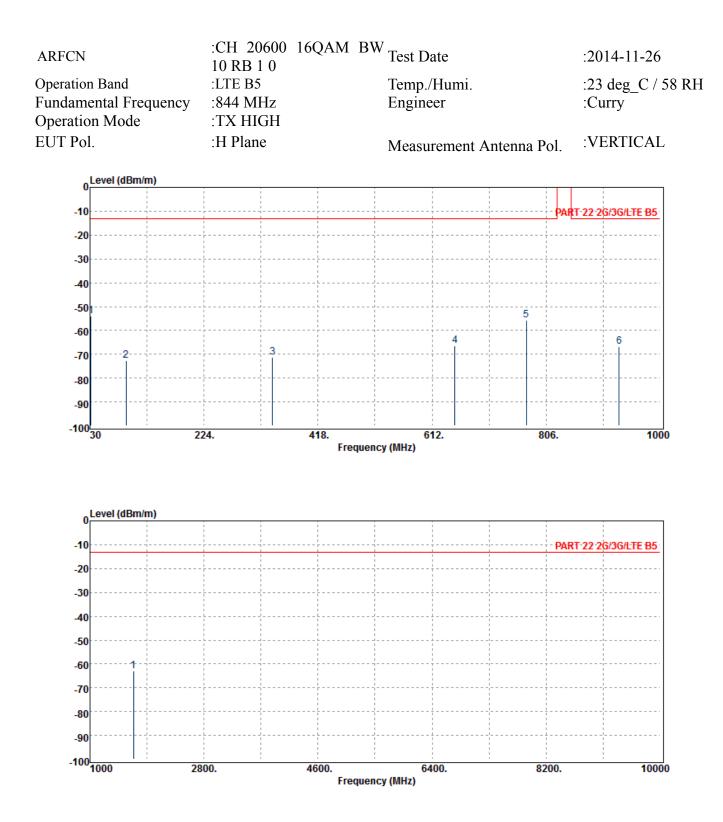
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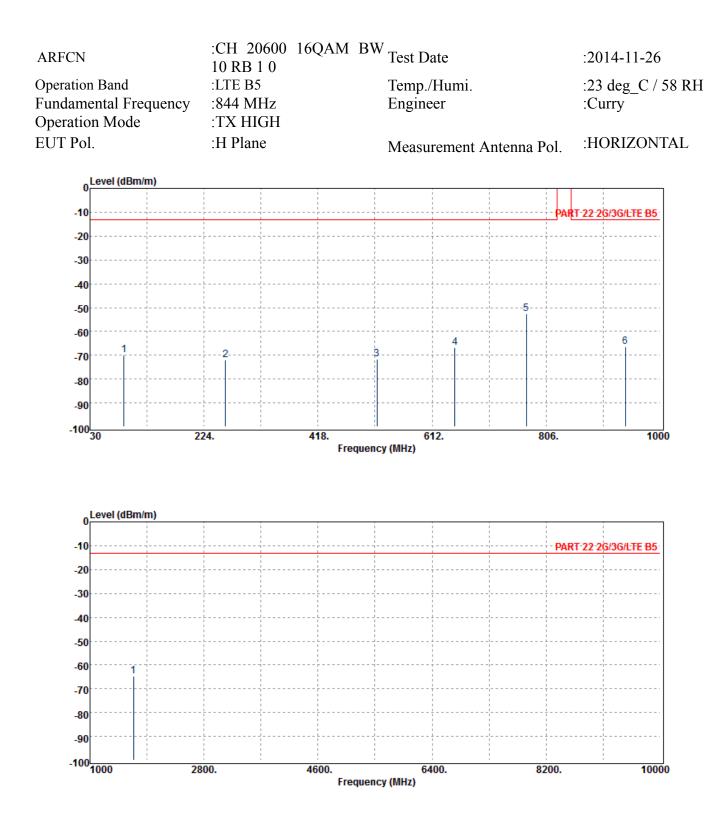
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