

FCC PART 22H, PART 24E
FCC PART 27
MEASUREMENT AND TEST REPORT

For

CLC HONG KONG LIMITED

1011A, 10/F., Harbour Centre Tower 1, No.1 Hok Cheung St., Hung Hom, Kowloon,
Hong Kong

FCC ID: 2AG4WZ515

Report Type: Original Report	Product Type: Might Plus 2
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Report Number: RDG160126006-00C	
Report Date: 2016-02-04	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *CLC HONG KONG LIMITED*'s product, model number: *Z515 (FCC ID: 2AG4WZ515)* (the "EUT") in this report was a *Might Plus 2*, which was measured approximately: 14.6 cm (L) x 7.38 cm (W) x 0.89 cm (H), rated input voltage: DC3.7V rechargeable Li-ion battery or DC5.0V charging from adapter.

Adapter information:plum

Model:PMC43

Input: AC100-240V, 50/60 Hz 0.2A

Output: DC 5.0V, 1000mA

All measurement and test data in this report was gathered from production sample serial number: 160126006 (Assigned by BACL, Dongguan). The EUT was received on 2016-01-27.

Objective

This report is prepared on behalf of *CLC HONG KONG LIMITED*, in accordance with: Part 2-Subpart J, Part 22-Subpart H, and Part 24-Subpart E of the Federal Communications Commission's rules. Part 2, Part 27 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emissions at antenna terminal, spurious radiated emission, frequency stability and band edge.

Related Submittal(s)/Grant(s)

FCC Part 15B JBP submissions with FCC ID: 2AG4WZ515

FCC Part 15C DSS submissions with FCC ID: 2AG4WZ515

FCC Part 15C DTS submissions with FCC ID: 2AG4WZ515

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 22 Subpart H - Public Mobile Services

Part 24 Subpart E - Personal Communication Services

Part 27 – Miscellaneous wireless communications services

Applicable Standards: TIA/EIA-603-D-2010.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp.(Dongguan).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to TIA/EIA-603-D-2010.

The test items were performed with the EUT operating at testing mode.

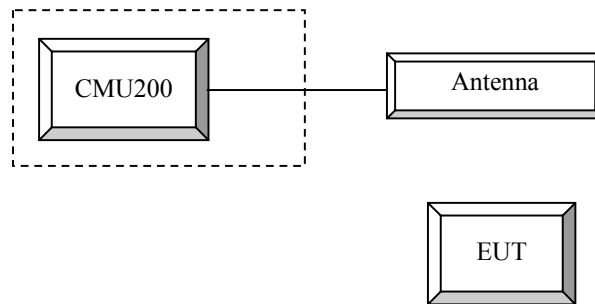
Equipment Modifications

No modification was made to the EUT.

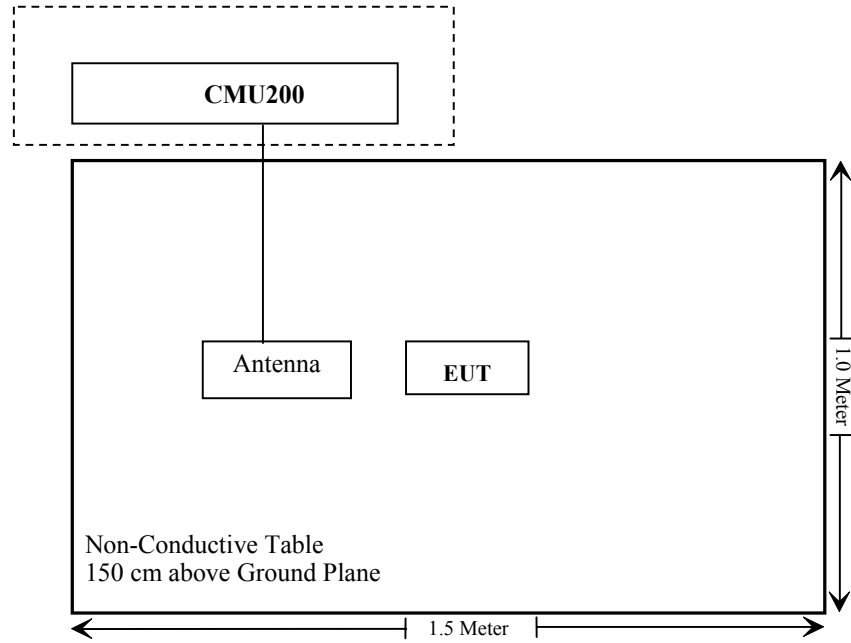
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
R&S	Universal Radio Communication Tester	CMU200	109038

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310, §2.1093	RF Exposure	Compliance
§2.1046; § 22.913 (a); § 24.232 (c); §27.50	RF Output Power	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905 § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliance
§ 2.1051, § 22.917 (a); § 24.238 (a); §27.53	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053 § 22.917 (a); § 24.238 (a); §27.53	Field Strength of Spurious Radiation	Compliance
§ 22.917 (a); § 24.238 (a); §27.53	Out of band emission, Band Edge	Compliance
§ 2.1055 § 22.355; § 24.235; §27.54	Frequency stability vs. temperature Frequency stability vs. voltage	Compliance

FCC §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RDG160126006-20.

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E, Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) & § 24.232 (c) & § 27.50 - RF OUTPUT POWER

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to §24.232 (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

According to FCC §2.1046 and §27.50 (d), (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

Test Procedure

GSM/GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900

Press Connection control to choose the different menus

Press RESET > choose all the reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM + GPRS or GSM + EGSM

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting

> Slot configuration > Uplink/Gamma

> 33 dBm for GPRS 850

> 30 dBm for GPRS 1900

> 27 dBm for EGPRS 850

> 26 dBm for EGPRS 1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0 > 4 dB
 Slot Config > Unchanged (if already set under MS signal)
 TCH > choose desired test channel
 Hopping > Off
 Main Timeslot > 3
 Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)

Bit Stream > 2E9-1 PSR Bit Stream
 AF/RF Connection Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
 Press Signal on to turn on the signal and change settings

WCDMA-Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc / βd	8/15

WCDMA HSDPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/ βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs=βhs/ βc	30/15			

WCDMA HSUPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subset	1	2	3	4	5
WCDMA A General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{hs}	22/15	12/15	30/15	4/15	5/15
CM(dB)	1.0	3.0	2.0	3.0	1.0	
MPR(dB)	0	2	1	2	0	
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	$A_{hs}=\beta_{hs}/\beta_c$	30/15				
HSUPA Specific Settings	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_FCI	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		

HSPA+

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

- Note 1: $\Delta_{ACK}, \Delta_{NACK}$ and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$.
- Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
- Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.
- Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
- Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

DC-HSDPA

The following tests were conducted according to the test requirements in Table C.8.1.12 of 3GPP TS 34.121-1

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
<p>Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.</p> <p>Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.</p>		

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-08-03	2016-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
R&S	Spectrum Analyzer	FSEM	831259/019	2015-07-28	2016-07-27
ETS LINDGREN	Horn Antenna	3115	9808-5557	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2015-02-19	2016-02-19
Giga	Signal Generator	1026	320408	2015-11-23	2016-11-22
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2015-09-06	2018-09-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	19.6°C
Relative Humidity:	35%
ATM Pressure:	102.1kPa

The testing was performed by Dean Liu on 2016-02-02.

Conducted Power

Cellular Band (Part 22H) & PCS Band (Part 24E)

Band	Channel No.	Peak Output Power (dBm)								
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Cellular	128	32.30	31.52	30.18	28.21	27.06	25.09	24.61	23.36	22.23
	190	32.42	31.87	30.81	28.27	27.91	25.05	24.47	23.26	22.14
	251	32.47	31.94	30.86	28.41	27.27	25.83	24.71	23.20	22.16
PCS	512	28.87	27.46	26.41	24.76	23.21	24.85	23.45	21.82	20.59
	661	28.95	27.15	26.40	24.19	23.41	24.31	22.87	21.49	20.29
	810	28.92	27.45	26.02	24.48	23.16	25.10	23.52	22.04	20.65

WCDMA Band II (PART 24E)

Mode	3GPP Sub Test	Average Output Power (dBm)					
		Low Channel (Ave. Power)	Low Channel (PAR)	Middle Channel (Ave. Power)	Middle Channel (PAR)	High Channel (Ave. Power)	High Channel (PAR)
Rel 99	1	21.58	2.88	21.10	3.24	21.87	2.68
HSDPA	1	20.36	2.47	20.27	2.89	20.86	2.79
	2	20.41	2.51	20.28	3.00	20.79	2.73
	3	20.36	2.45	20.31	2.87	20.77	2.67
	4	20.37	2.32	20.43	2.85	20.80	2.67
HSUPA	1	20.42	2.39	20.38	2.90	20.71	2.78
	2	20.37	2.35	20.36	2.99	20.73	2.62
	3	20.34	2.51	20.33	2.95	20.76	2.79
	4	20.43	2.56	20.24	2.98	20.65	2.66
	5	20.36	2.41	20.28	2.87	20.74	2.72
DC-HSDPA	1	20.30	2.44	20.23	3.04	20.69	2.82
	2	20.23	2.52	20.31	2.95	20.62	2.85
	3	20.36	2.35	20.18	2.90	20.58	2.81
	4	20.38	2.49	20.21	3.02	20.55	2.71
HSPA+	1	20.32	2.34	20.16	2.88	20.59	2.80

WCDMA Band V (PART 22H)

Mode	3GPP Sub Test	Average Output Power (dBm)					
		Low Channel (Ave. Power)	Low Channel (PAR)	Middle Channel (Ave. Power)	Middle Channel (PAR)	High Channel (Ave. Power)	High Channel (PAR)
Rel 99	1	22.25	3.20	22.24	2.32	22.28	3.24
HSDPA	1	21.24	2.85	21.43	2.85	21.15	2.99
	2	21.17	2.78	21.45	2.97	21.23	2.94
	3	21.22	2.85	21.47	2.93	21.08	3.02
	4	21.14	2.71	21.50	2.93	21.16	3.10
HSUPA	1	21.16	2.94	21.43	2.95	21.04	3.05
	2	21.12	2.87	21.45	2.96	21.97	3.02
	3	21.15	2.68	21.42	2.99	21.02	3.07
	4	21.11	2.81	21.33	2.92	21.06	3.02
	5	21.06	2.89	21.37	2.93	21.05	3.03
DC-HSDPA	1	21.00	2.94	21.30	2.81	21.95	3.11
	2	21.07	2.85	21.25	2.83	21.01	3.02
	3	21.05	2.88	21.28	2.80	21.98	3.18
	4	21.02	2.78	21.24	2.91	21.94	3.03
HSPA+	1	21.97	2.96	21.29	2.87	21.89	3.14

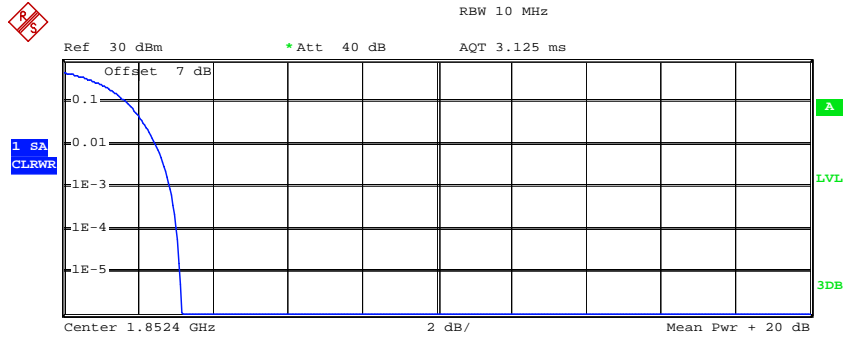
WCDMA Band IV (PART 27)

Mode	3GPP Sub Test	Average Output Power (dBm)					
		Low Channel (Ave. Power)	Low Channel (PAR)	Middle Channel (Ave. Power)	Middle Channel (PAR)	High Channel (Ave. Power)	High Channel (PAR)
Rel 99	1	21.34	2.96	21.26	3.16	21.72	2.88
HSDPA	1	20.27	2.50	20.37	2.90	20.78	2.84
	2	20.43	2.52	20.23	3.01	20.70	2.69
	3	20.30	2.35	20.30	2.77	20.68	2.69
	4	20.43	2.33	20.45	2.87	20.88	2.69
HSUPA	1	20.49	2.44	20.32	2.98	20.80	2.78
	2	20.32	2.36	20.40	2.97	20.68	2.65
	3	20.36	2.56	20.34	2.90	20.70	2.84
	4	20.44	2.59	20.28	3.00	20.69	2.61
	5	20.28	2.32	20.25	2.78	20.77	2.81
DC-HSDPA	1	20.21	2.50	20.24	3.08	20.64	2.73
	2	20.25	2.61	20.26	2.97	20.64	2.88
	3	20.30	2.32	20.18	2.82	20.50	2.75
	4	20.36	2.57	20.13	2.94	20.53	2.79
HSPA+	1	20.41	2.44	20.18	2.87	20.52	2.82

Note: peak-to-average ratio (PAR) <13 dB.

Peak-to-average ratio (PAR)
WCDMA Band II (PART 24E)

Low Channel



Complementary Cumulative Distribution Function (100000 samples)

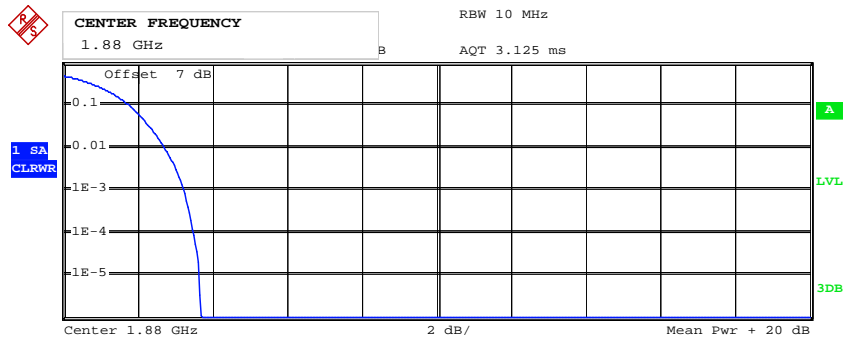
Trace 1

Mean 19.92 dBm
 Peak 23.10 dBm
 Crest 3.17 dB

10% @ 1.72 dB
 1% @ 2.48 dB
 .1% @ 2.88 dB

Date: 2.FEB.2016 22:00:14

Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

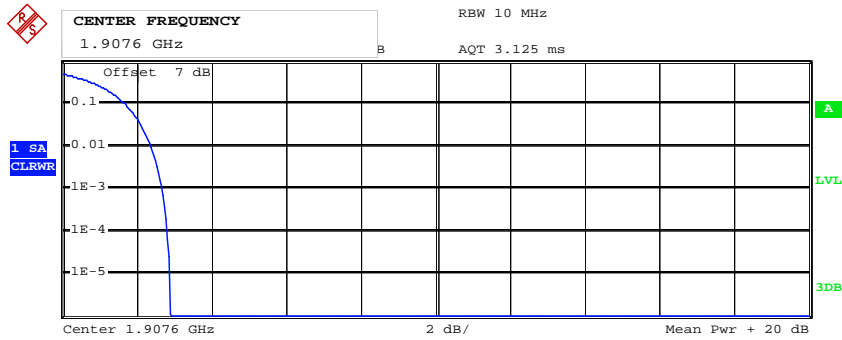
Trace 1

Mean 19.20 dBm
 Peak 22.88 dBm
 Crest 3.68 dB

10% @ 1.80 dB
 1% @ 2.72 dB
 .1% @ 3.24 dB

Date: 2.FEB.2016 22:06:01

High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

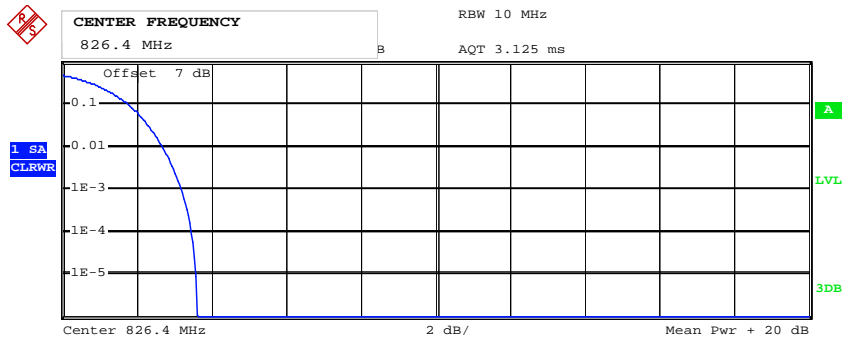
Mean 19.07 dBm
 Peak 21.97 dBm
 Crest 2.90 dB

10% @ 1.72 dB
 1% @ 2.40 dB
 .1% @ 2.68 dB

Date: 2.FEB.2016 22:13:42

WCDMA Band V (PART 22H)

Low Channel



Complementary Cumulative Distribution Function (100000 samples)

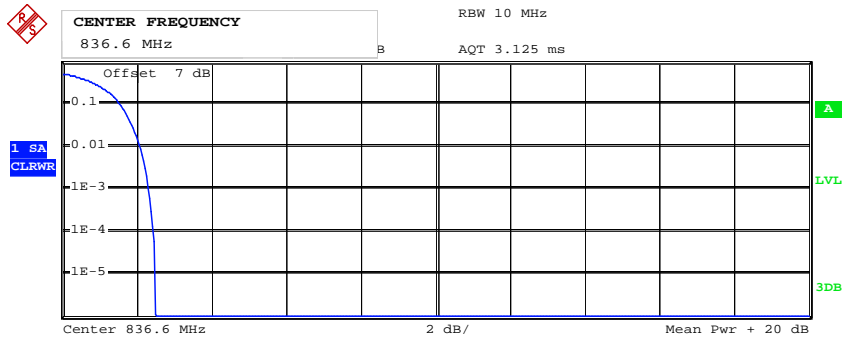
Trace 1

Mean 20.47 dBm
 Peak 24.08 dBm
 Crest 3.62 dB

10% @ 1.80 dB
 1% @ 2.72 dB
 .1% @ 3.20 dB

Date: 2.FEB.2016 22:17:38

Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

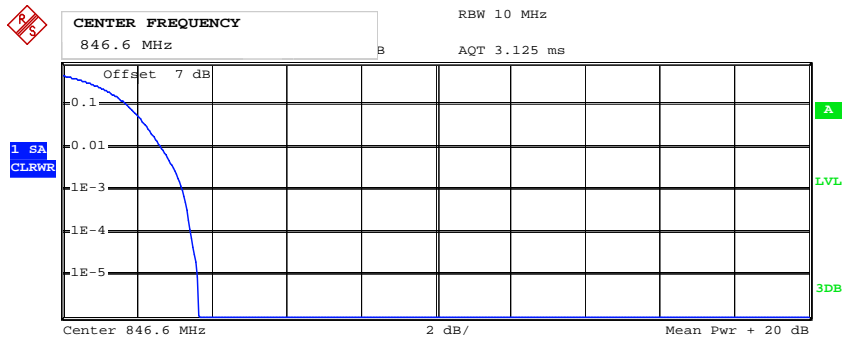
Trace 1

Mean 20.44 dBm
Peak 22.95 dBm
Crest 2.51 dB

10% @ 1.56 dB
1% @ 2.08 dB
.1% @ 2.32 dB

Date: 2.FEB.2016 22:18:25

High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

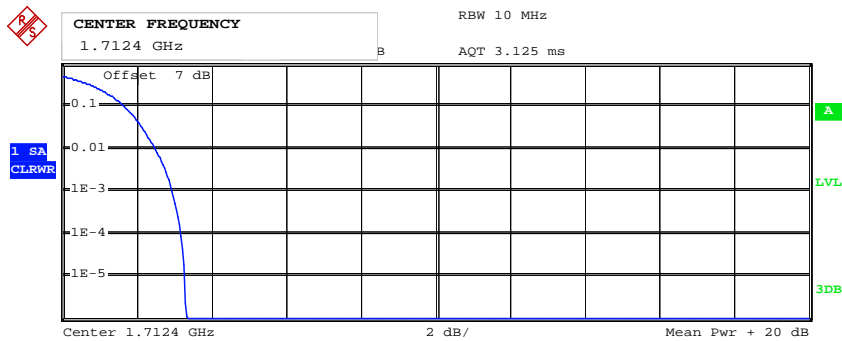
Mean 20.28 dBm
Peak 23.94 dBm
Crest 3.67 dB

10% @ 1.76 dB
1% @ 2.68 dB
.1% @ 3.24 dB

Date: 2.FEB.2016 22:19:06

WCDMA Band IV(PART 27)

Low Channel



Complementary Cumulative Distribution Function (100000 samples)

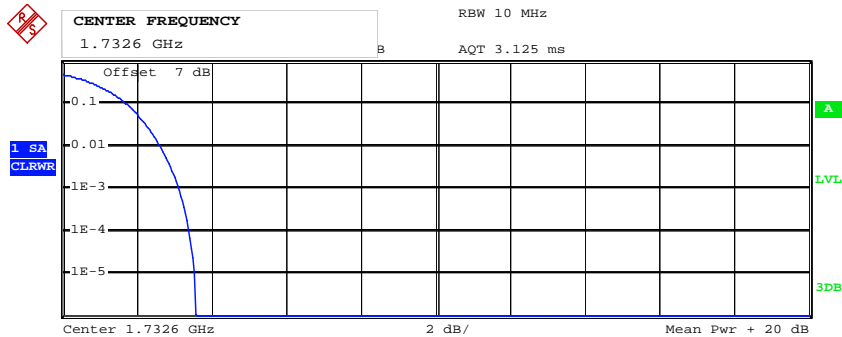
Trace 1

Mean 19.07 dBm
 Peak 22.39 dBm
 Crest 3.32 dB

10% @ 1.68 dB
 1% @ 2.52 dB
 .1% @ 2.96 dB

Date: 2.FEB.2016 22:15:13

Middle Channel



Complementary Cumulative Distribution Function (100000 samples)

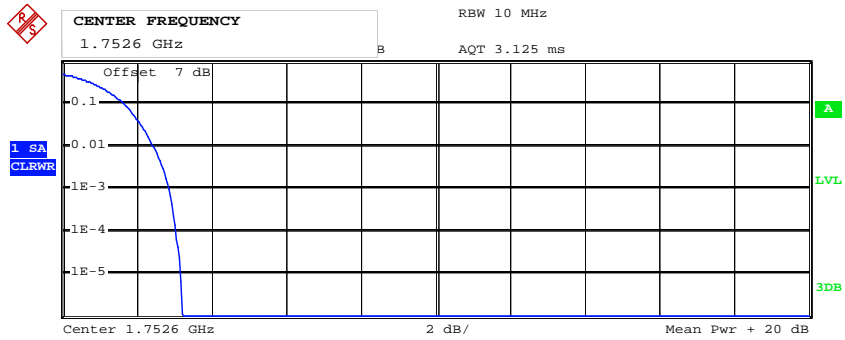
Trace 1

Mean 18.73 dBm
 Peak 22.32 dBm
 Crest 3.59 dB

10% @ 1.76 dB
 1% @ 2.64 dB
 .1% @ 3.16 dB

Date: 2.FEB.2016 22:15:45

High Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean 19.18 dBm
 Peak 22.39 dBm
 Crest 3.21 dB

10% @ 1.68 dB
 1% @ 2.48 dB
 .1% @ 2.88 dB

Date: 2.FEB.2016 22:16:32

ERP & EIRP

PART 22H

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Middle Channel								
836.600	H	92.83	17.9	0.0	1	16.9	38.50	21.6
836.600	V	104.45	32.7	0.0	1	31.7	38.50	6.8
EGPRS 850 Middle Channel								
836.600	H	87.81	12.9	0.0	1	11.9	38.50	26.6
836.600	V	95.55	23.8	0.0	1	22.8	38.50	15.7
WCDMA Band V Middle Channel								
836.600	H	87.24	12.3	0.0	1	11.3	38.5	27.2
836.600	V	93.11	21.3	0.0	1	20.3	38.5	18.2

PART 24E

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
PCS 1900 Middle Channel								
1880.000	H	90.50	18.9	11.7	1.4	29.2	33.0	3.8
1880.000	V	91.46	20	11.7	1.4	30.3	33.0	2.7
EGPRS 1900 Middle Channel								
1880.000	H	72.60	1	11.7	1.4	11.3	33.0	21.7
1880.000	V	81.58	10.1	11.7	1.4	20.4	33.0	12.6
WCDMA Band II Middle Channel								
1880.000	H	82.58	11	11.7	1.4	21.3	33.0	11.7
1880.000	V	83.84	12.4	11.7	1.4	22.7	33.0	10.3

PART 27

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band IV Middle Channel								
1732.600	H	85.42	12.4	10.9	1.4	21.9	33.0	11.1
1732.600	V	84.71	11.4	10.9	1.4	20.9	33.0	12.1

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = SG Level - Cable loss + Antenna Gain
- 3) Margin = Limit - Absolute Level

FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53- OCCUPIED BANDWIDTH

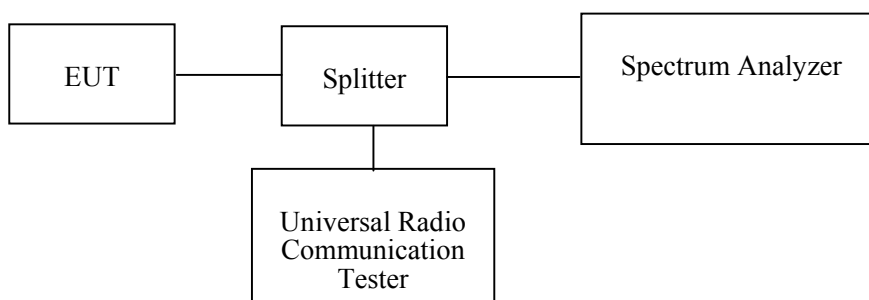
Applicable Standard

FCC §2.1049, §22.917, §22.905, §24.238 and §27.53.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The 26 dB & 99% bandwidth was recorded.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
R&S	Universal Radio Communication Tester	CMU200	109038	2015-07-28	2016-07-27

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	19.6~20.4 °C
Relative Humidity:	37~42%
ATM Pressure:	102~102.1 kPa

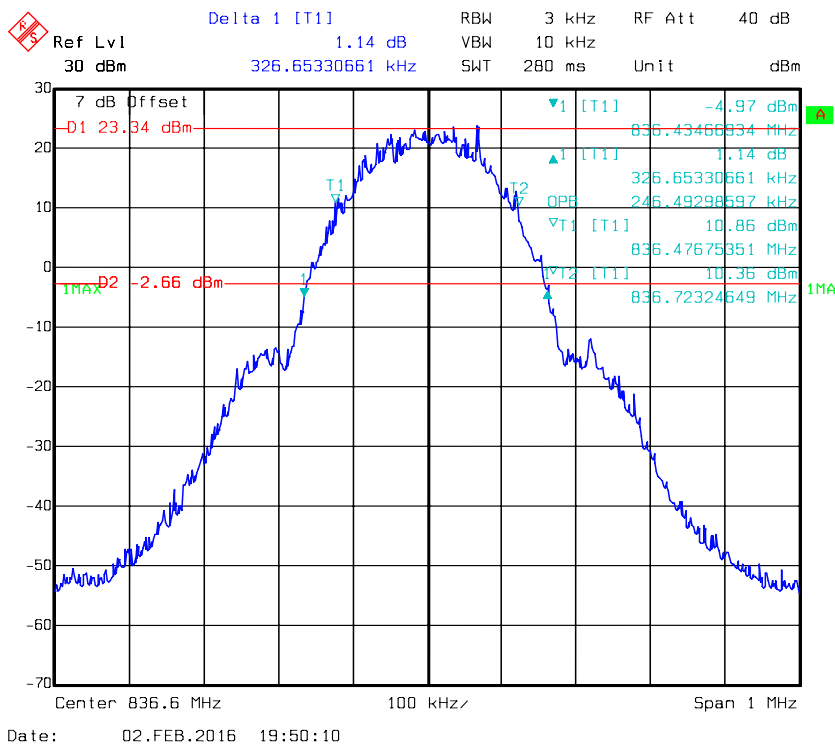
The testing was performed by Dean Liu on 2016-02-02&2016-02-03.

Test Mode: Transmitting

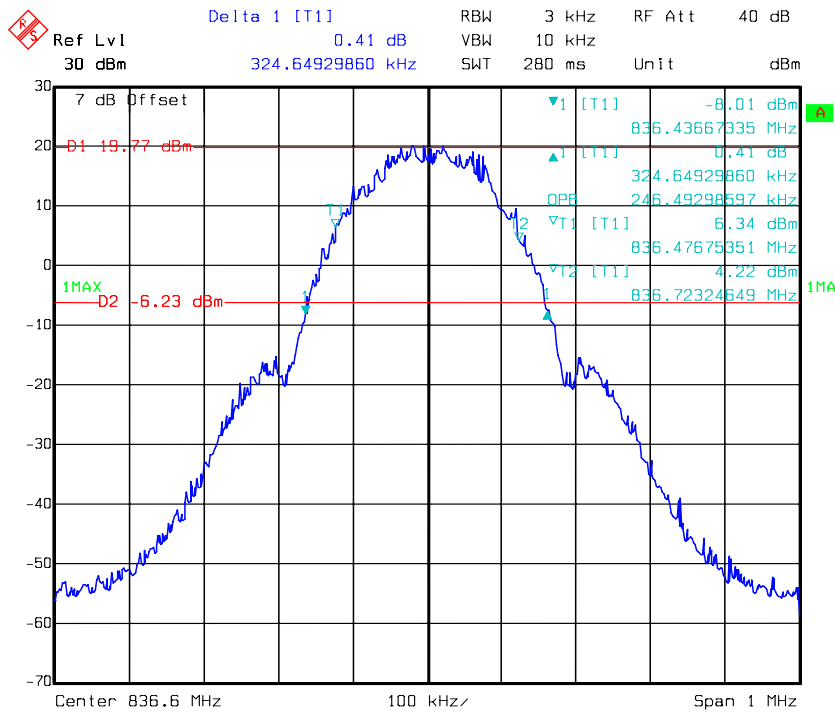
Test Result: Compliance. Please refer to the following table and plots.

Band	Channel No.	Mode	99% Occupied Bandwidth (kHz)	26 dB Occupied Bandwidth (kHz)
Cellular	190	GSM	246.00	327.00
		EDGE	246.00	325.00
PCS	661	PCS	246.00	325.00
		EDGE	248.00	323.00
WCDMA Band II	9400	Rel 99	4168.00	4749.00
	9400	HSDPA	4168.00	4749.00
	9400	HSUPA	4168.00	4770.00
WCDMA Band V	4175	Rel 99	4188.00	4810.00
	4175	HSDPA	4188.00	4810.00
	4175	HSUPA	4188.00	4830.00
Band IV WCDMA	1413	Rel 99	4168.00	4761.00
	1413	HSDPA	4168.00	4770.00
	1413	HSUPA	4168.00	4770.00

GMSK 850 Cellular Band

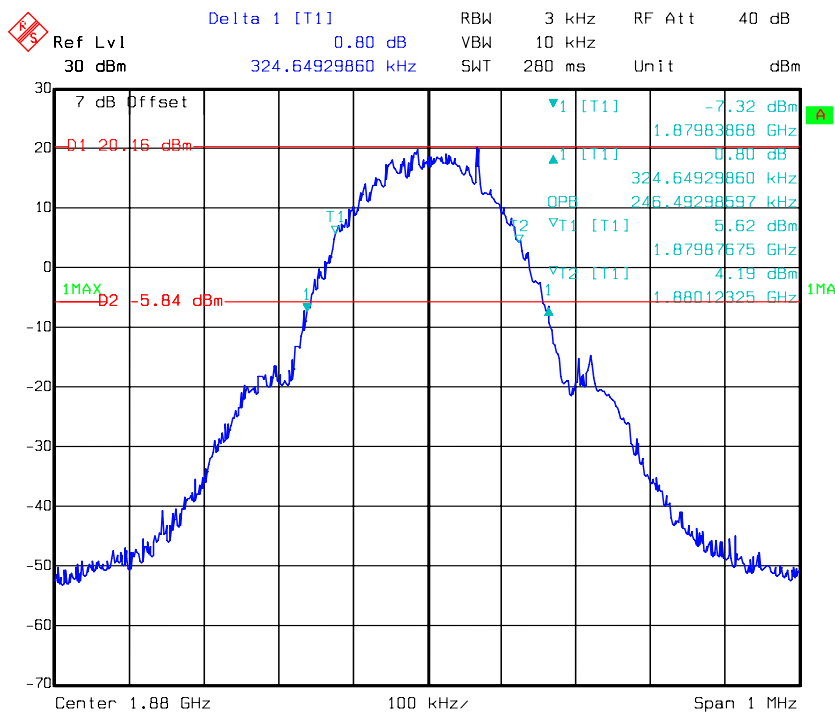


EDGE 850 Cellular Band



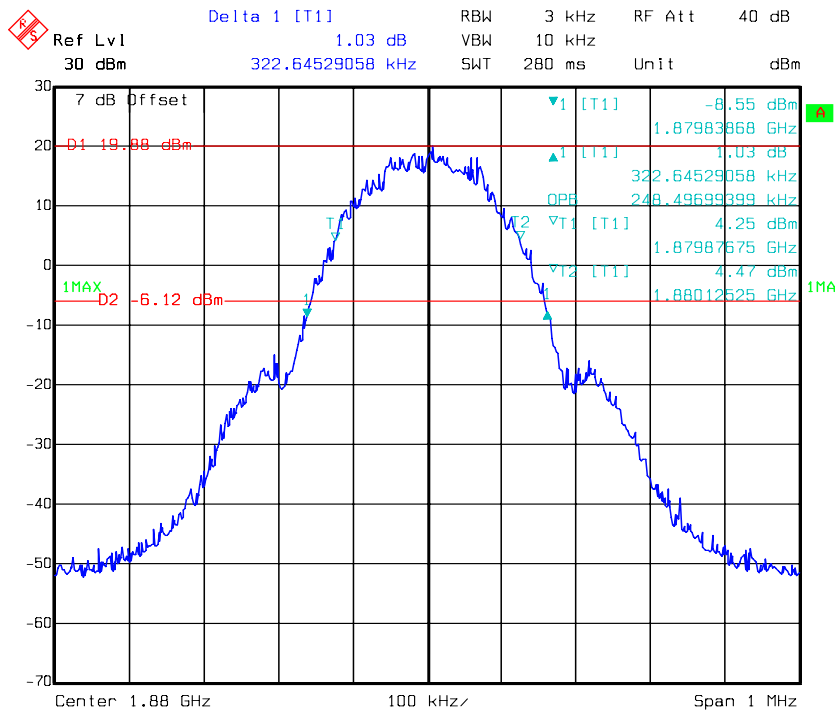
Date: 02.FEB.2016 23:33:35

GMSK PCS Band



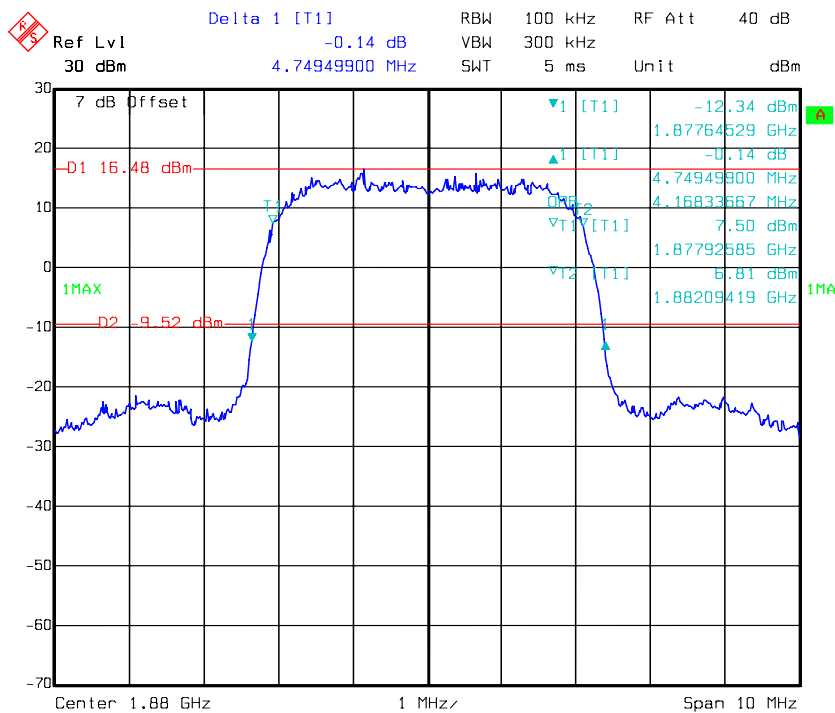
Date: 02.FEB.2016 20:09:54

EDGE PCS Band



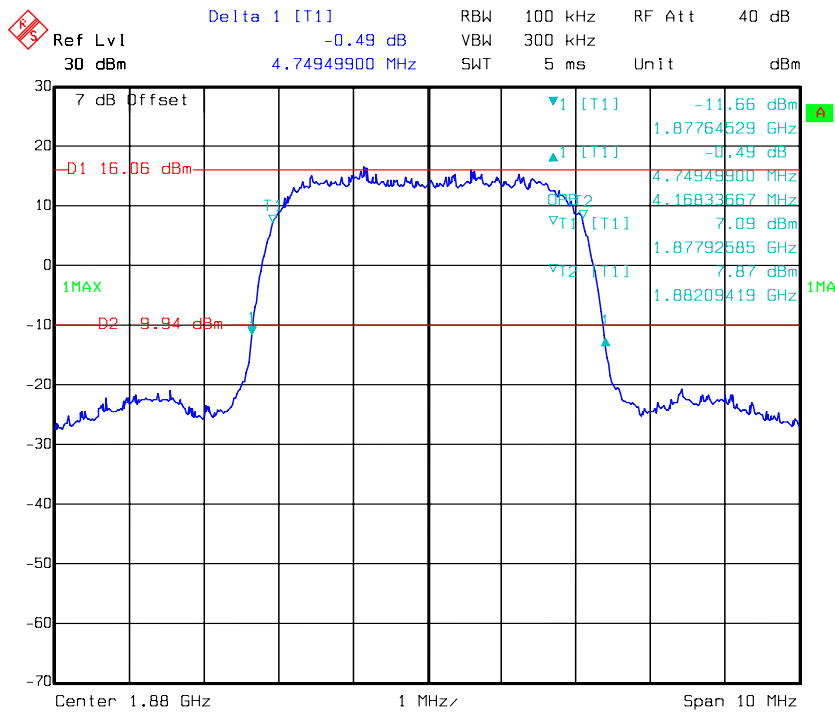
Date: 02.FEB.2016 23:50:50

REL99 Band II



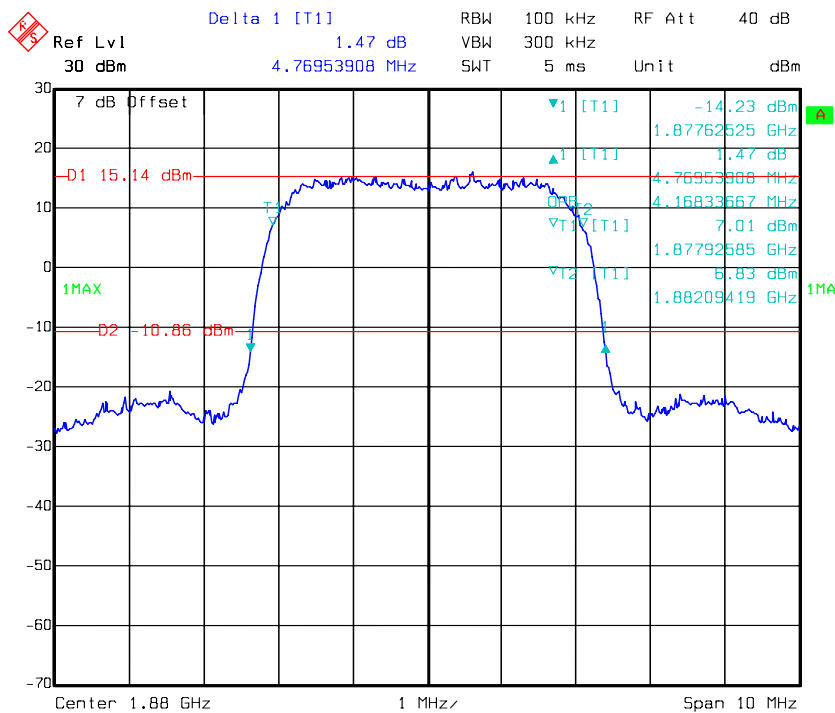
Date: 02.FEB.2016 20:33:19

HSDPA Band II



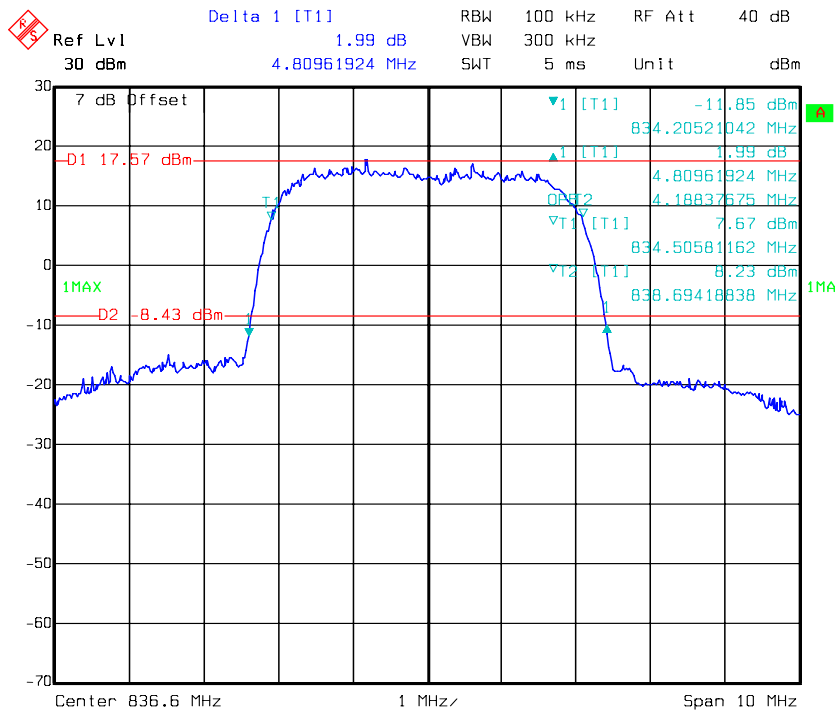
Date: 02.FEB.2016 20:32:20

HSUPA Band II



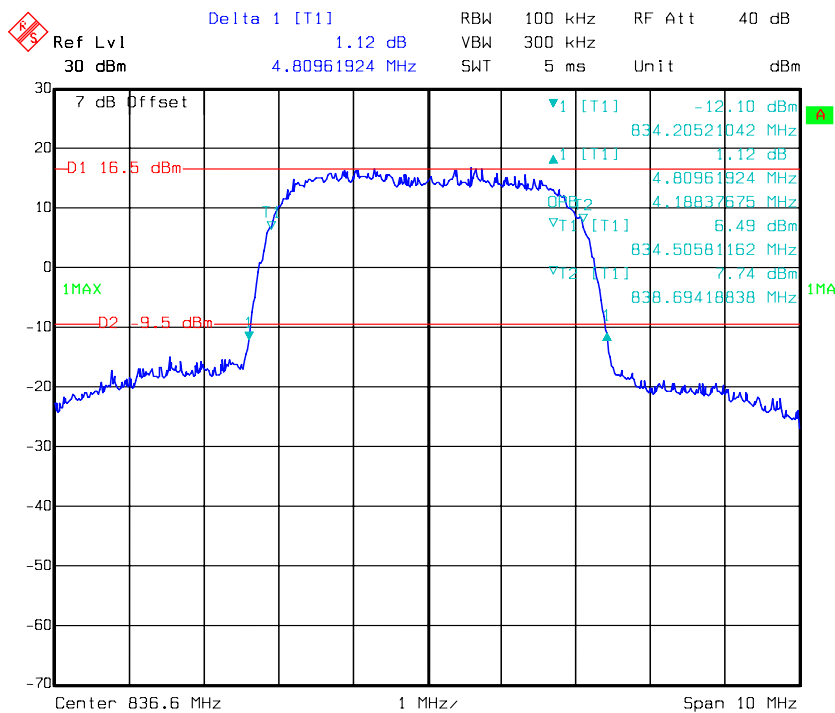
Date: 02.FEB.2016 20:34:48

REL99 Band V



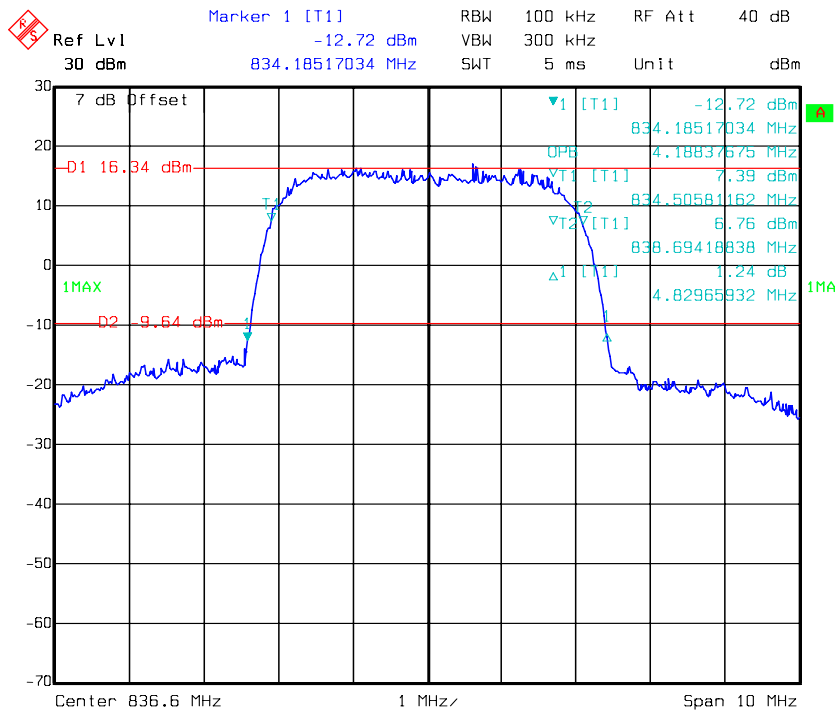
Date: 02.FEB.2016 22:14:17

HSDPA Band V



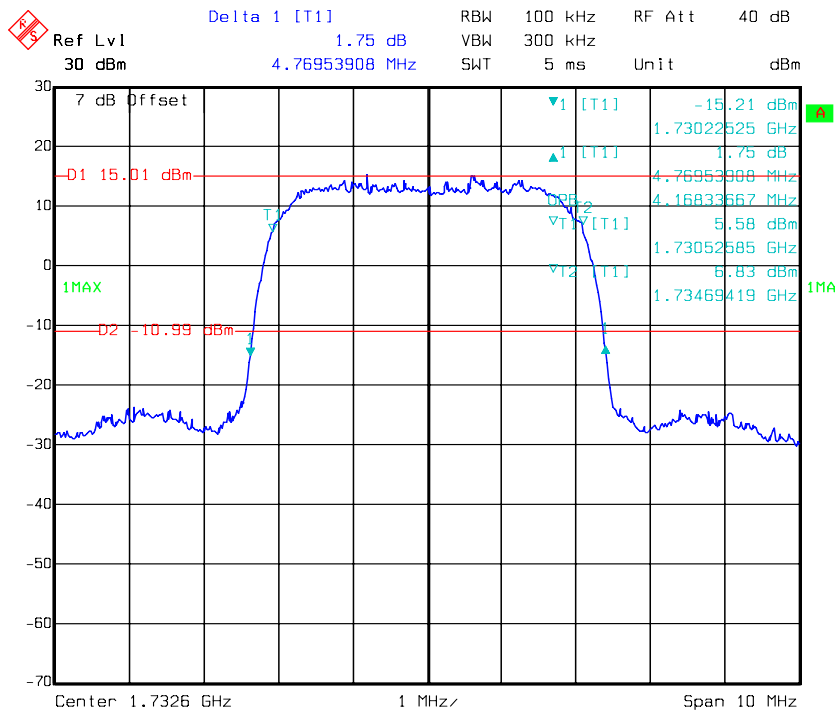
Date: 02.FEB.2016 22:16:09

HSUPA Band V



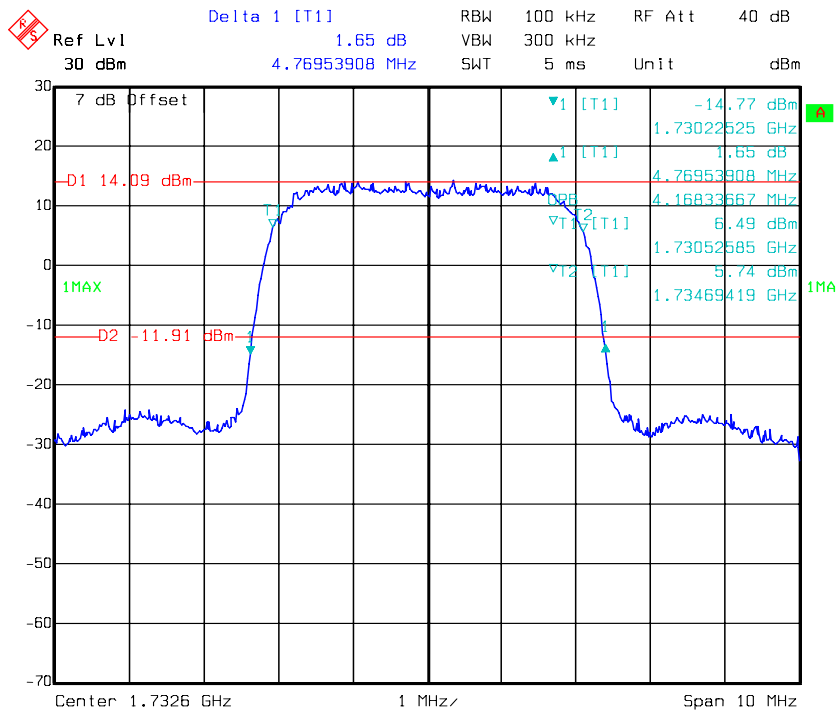
Date: 02.FEB.2016 22:15:16

REL99 Band IV

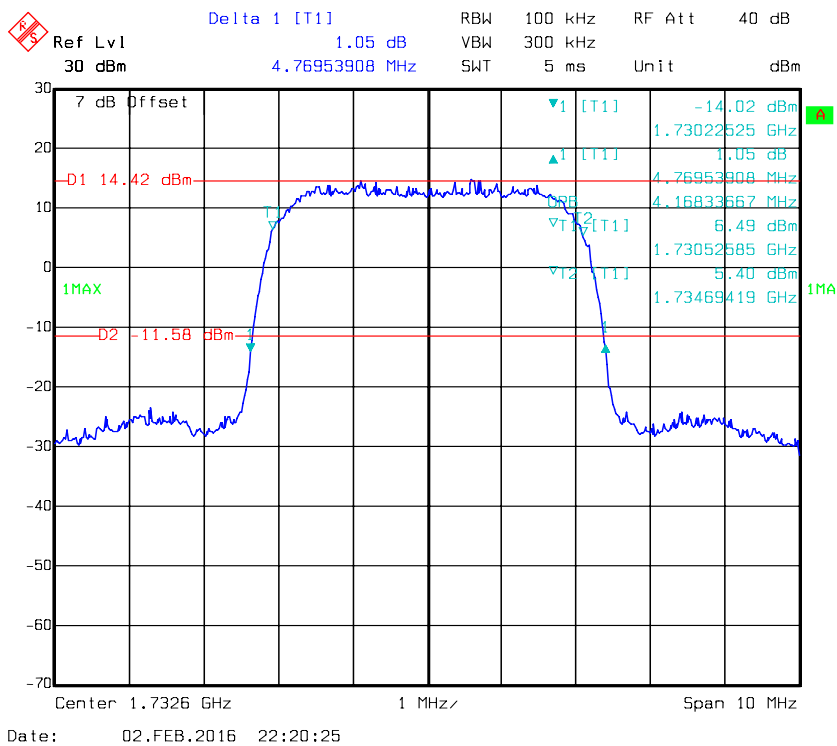


Date: 02.FEB.2016 22:19:20

HSDPA Band IV



HSUPA Band IV



FCC §2.1051, §22.917(a) & §24.238(a) & §27.53- SPURIOUS EMISSIONS AT ANTENNA TERMINALS

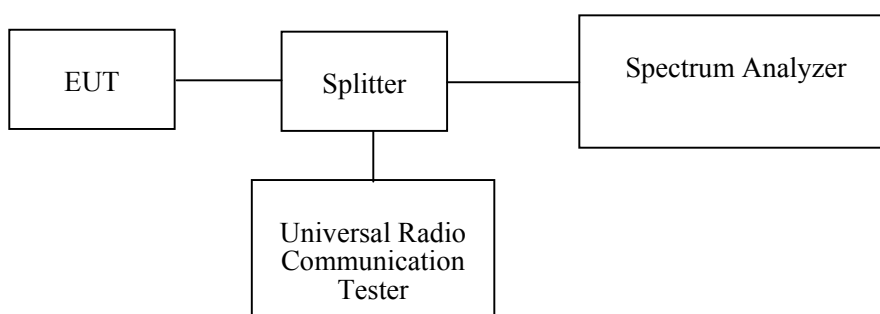
Applicable Standard

FCC §2.1051, §22.917(a), §24.238(a) and §27.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109038	2015-05-09	2016-05-09

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

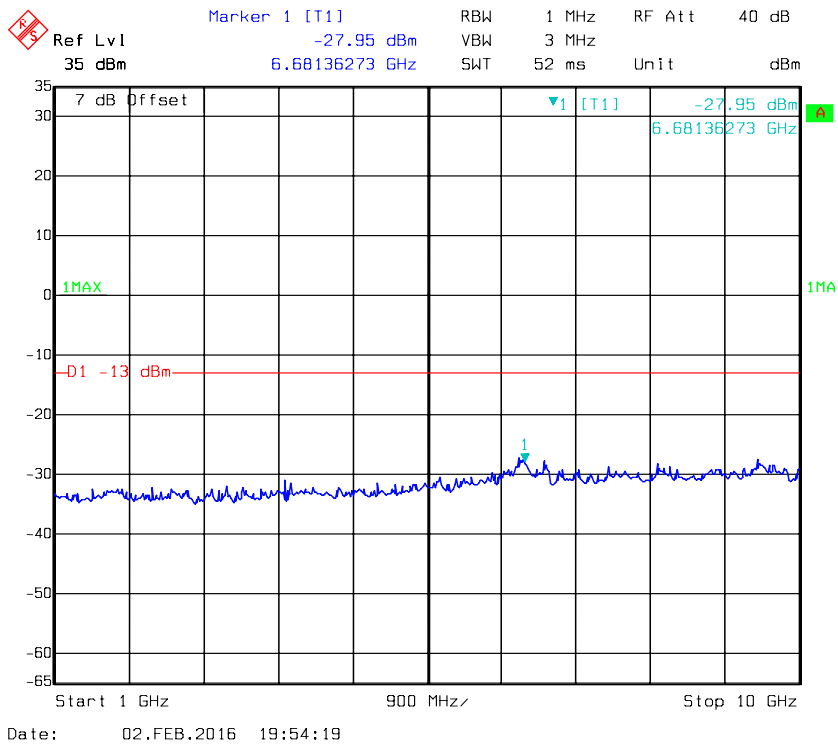
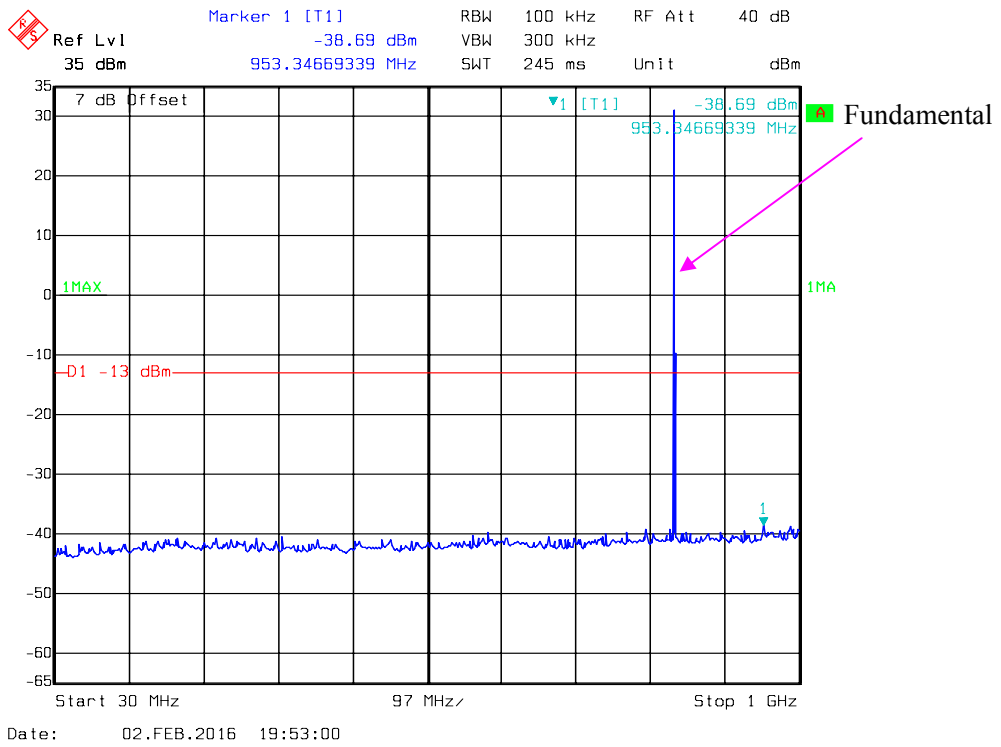
Environmental Conditions

Temperature:	23.9~24.6 °C
Relative Humidity:	47~52%
ATM Pressure:	100.6~100.9 kPa

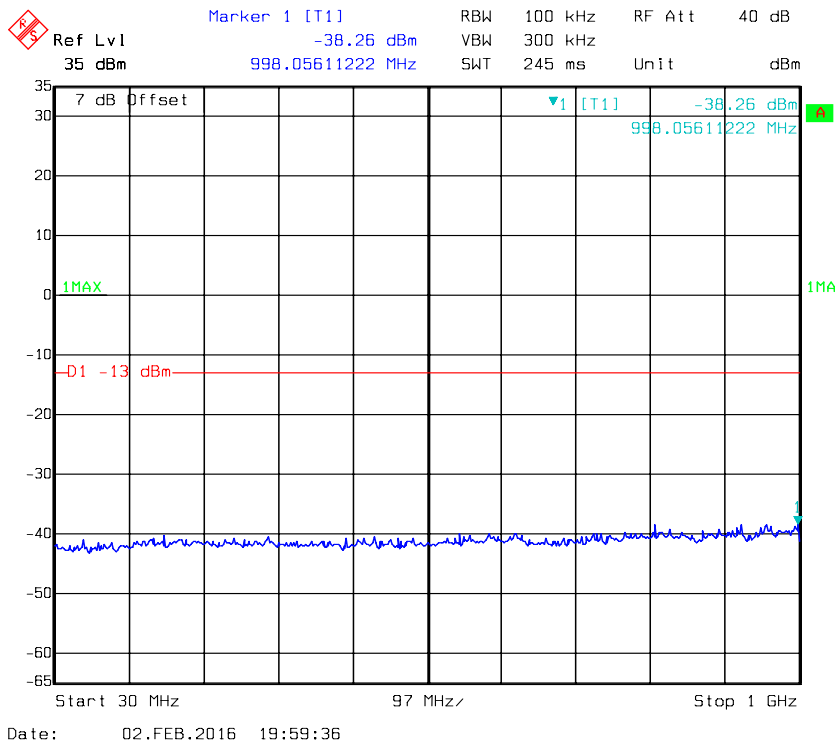
The testing was performed by Dean Liu from 2016-02-02 to 2016-02-03.

Please refer to the following plots.

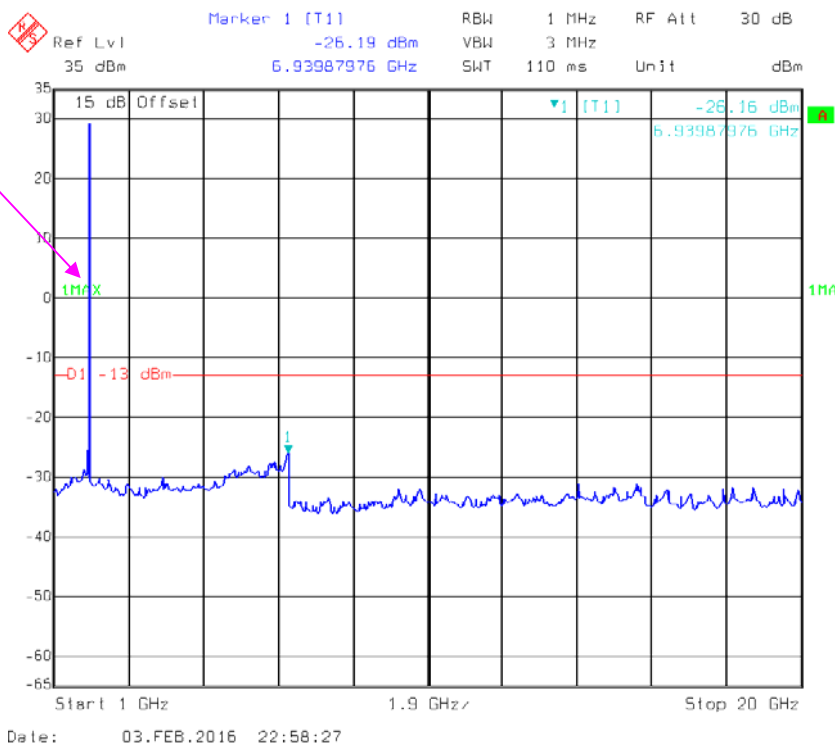
GSM850_Middle Channel



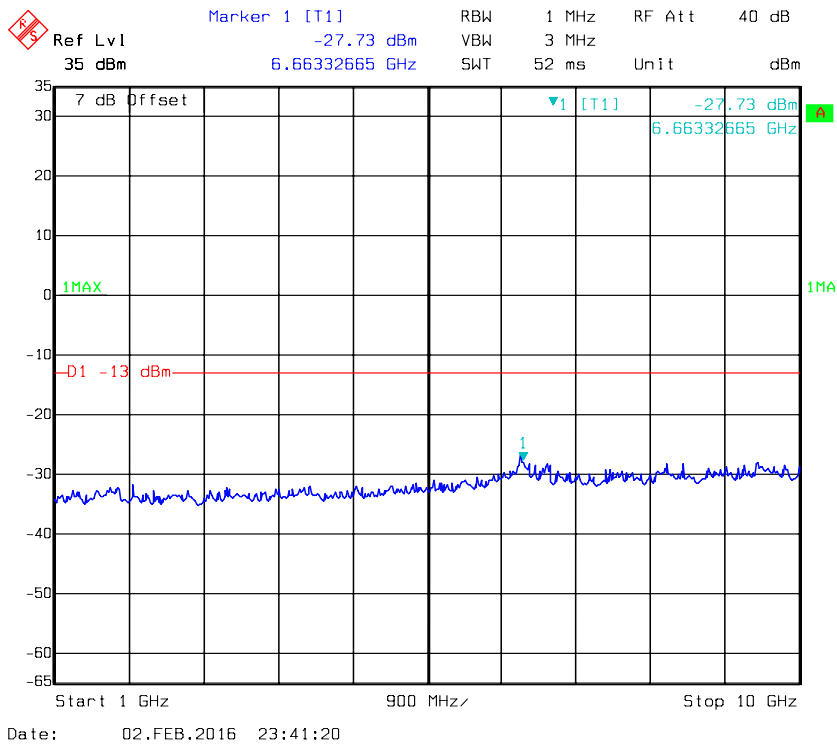
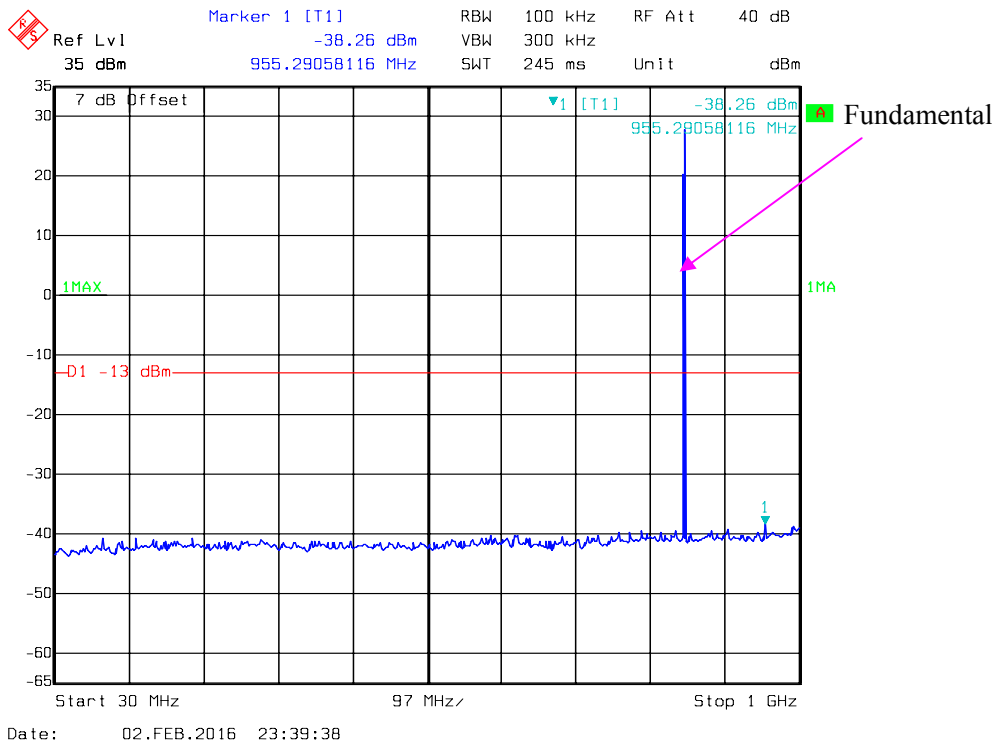
PCS 1900_ Middle Channel



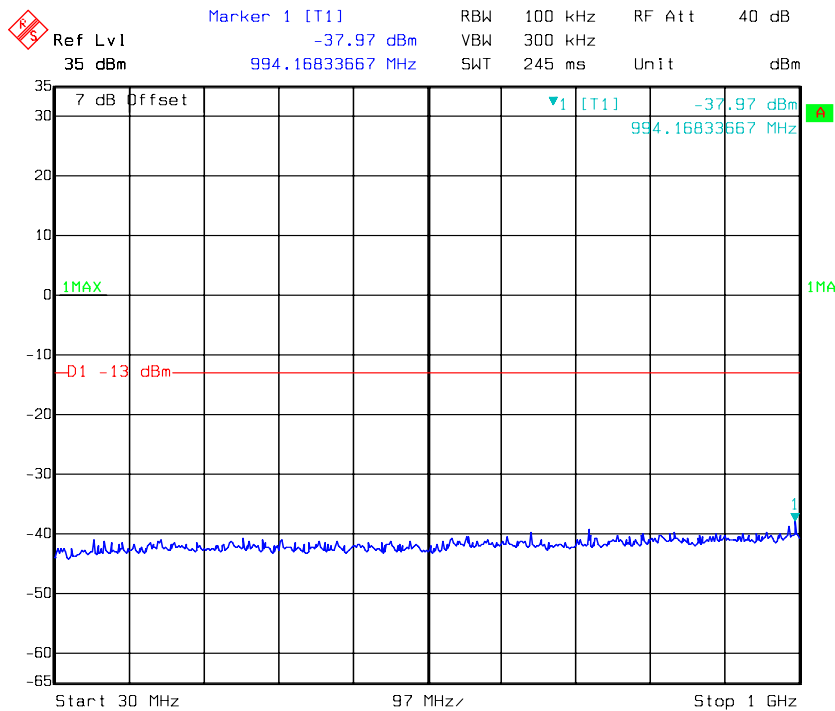
Fundamental



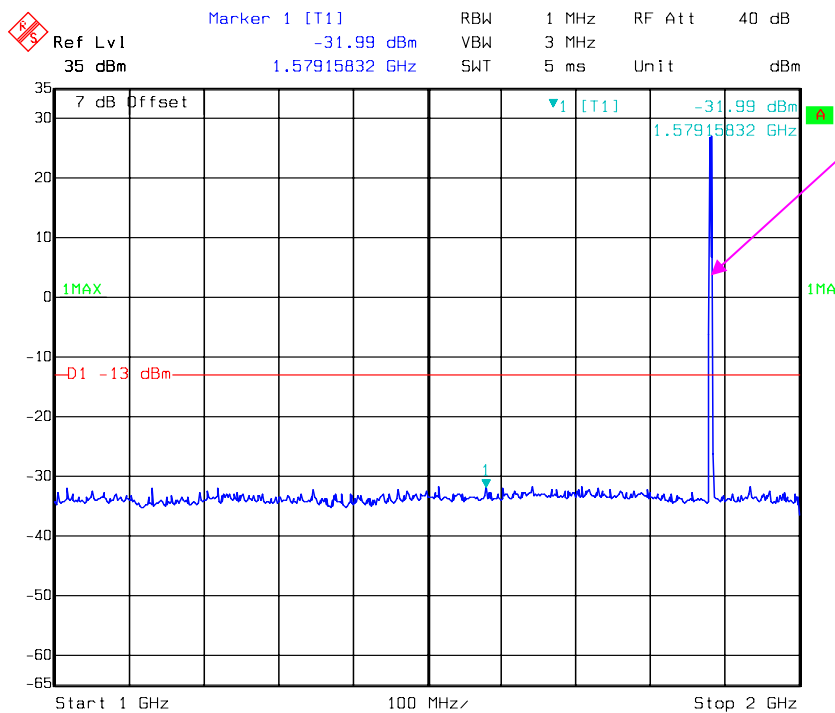
EDGE850_Middle Channel



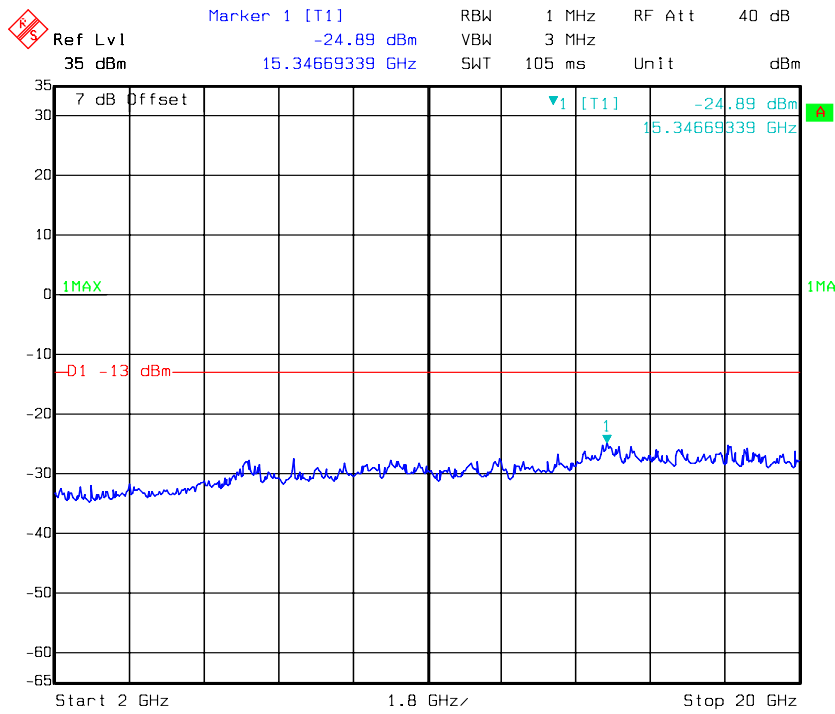
EDGE 1900_ Middle Channel



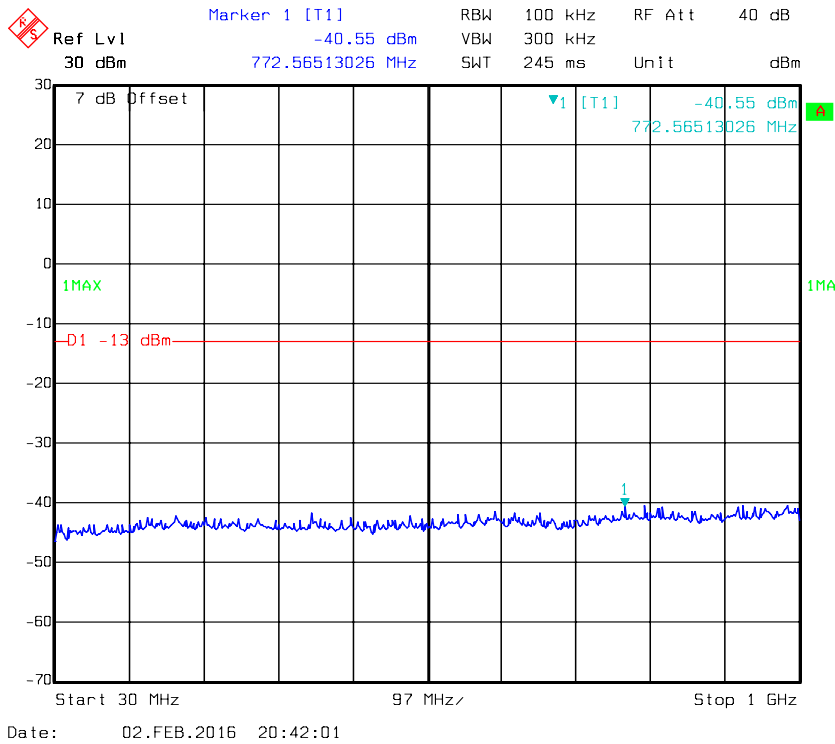
Date: 02.FEB.2016 23:46:18

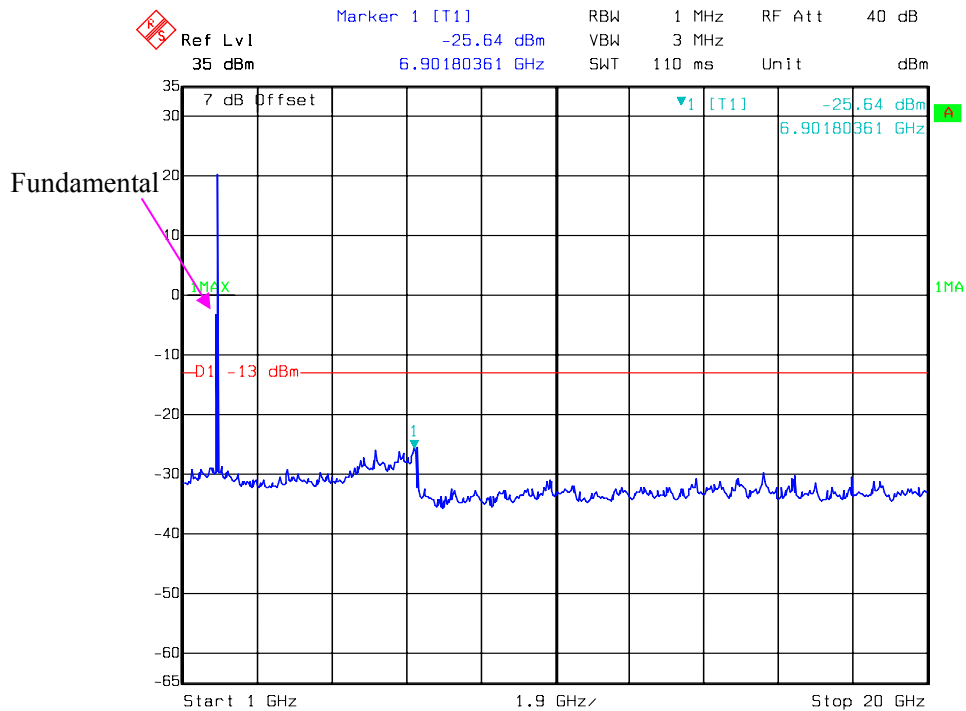


Date: 02.FEB.2016 23:47:21

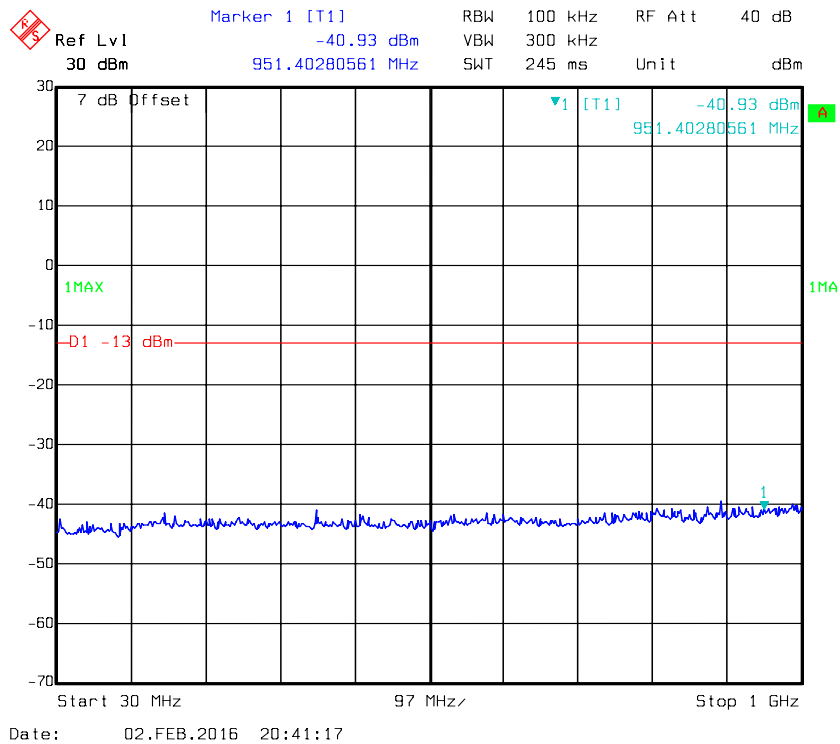


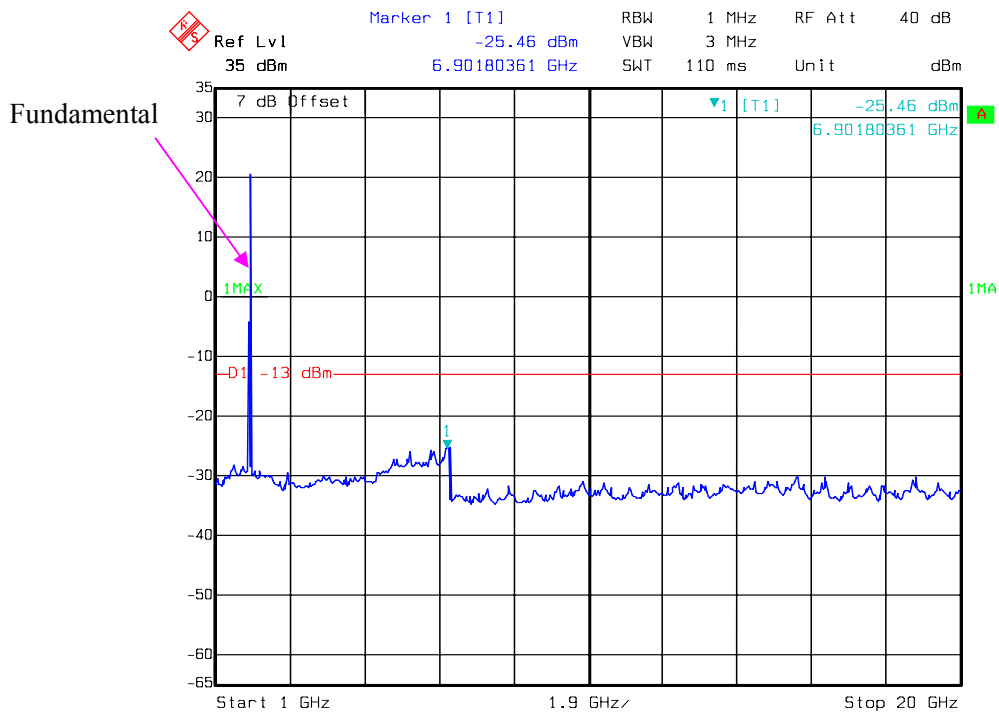
REL99 Band II_Middle Channel



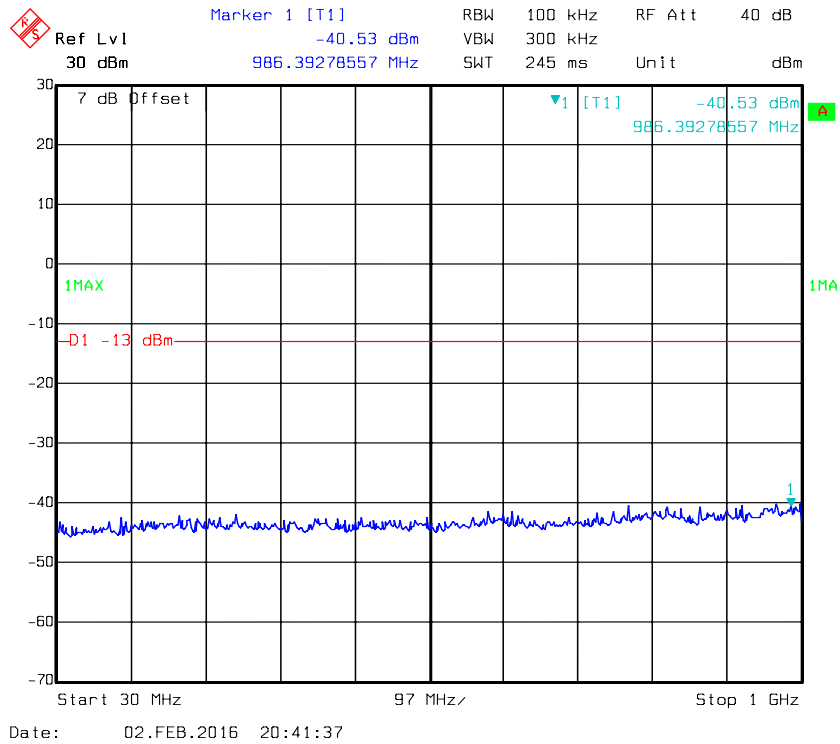


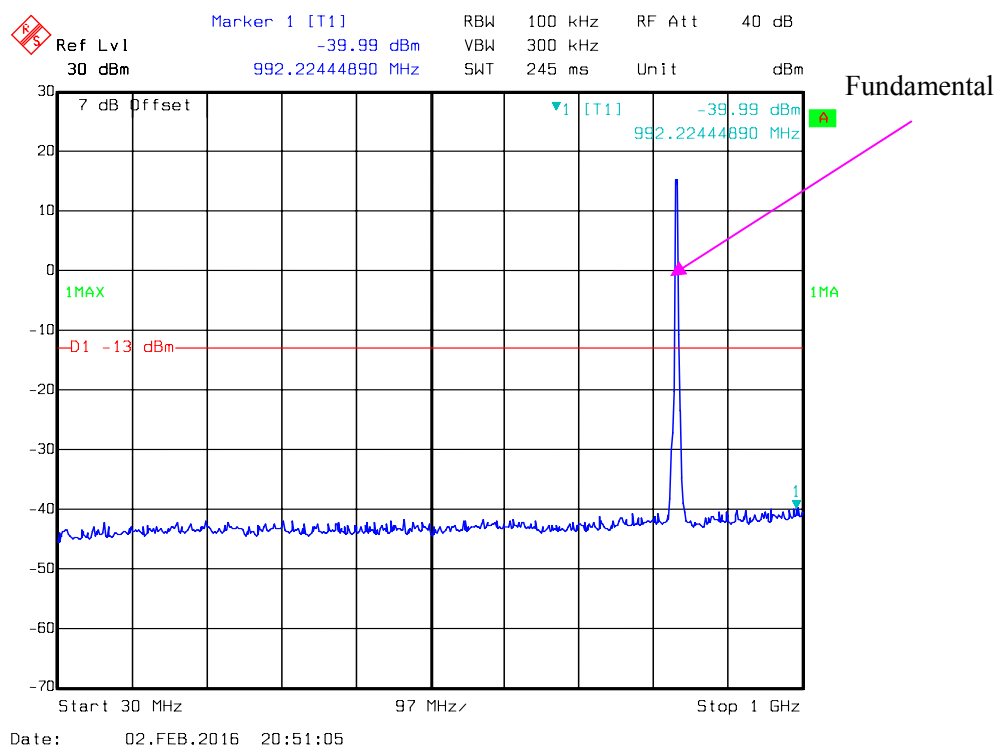
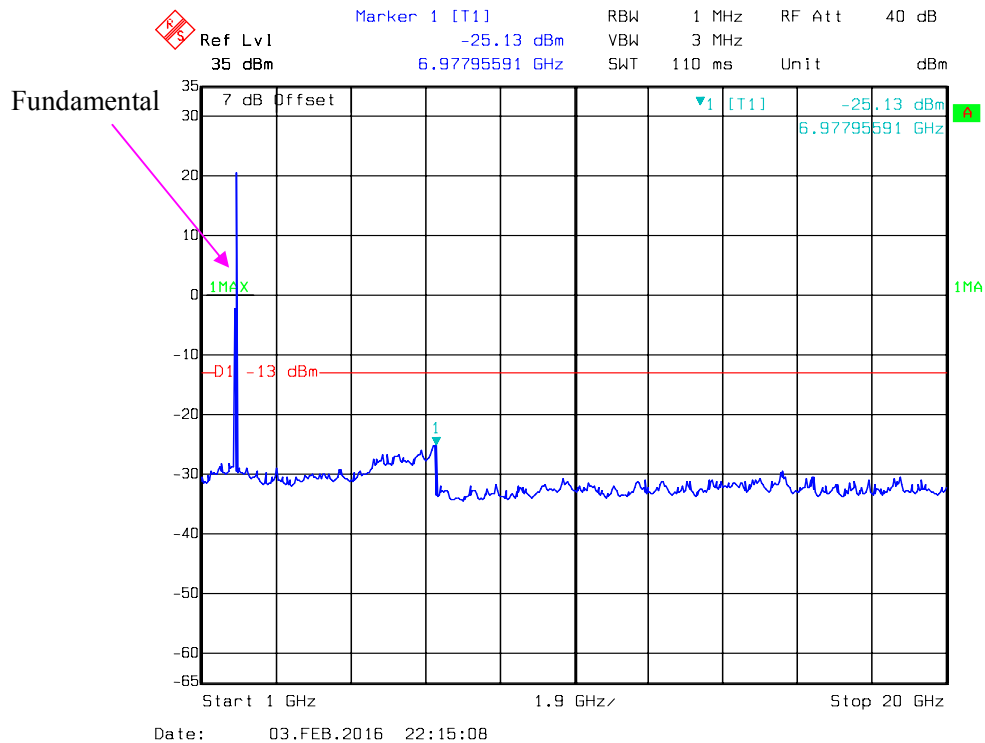
HSDPA Band II_Middle Channel

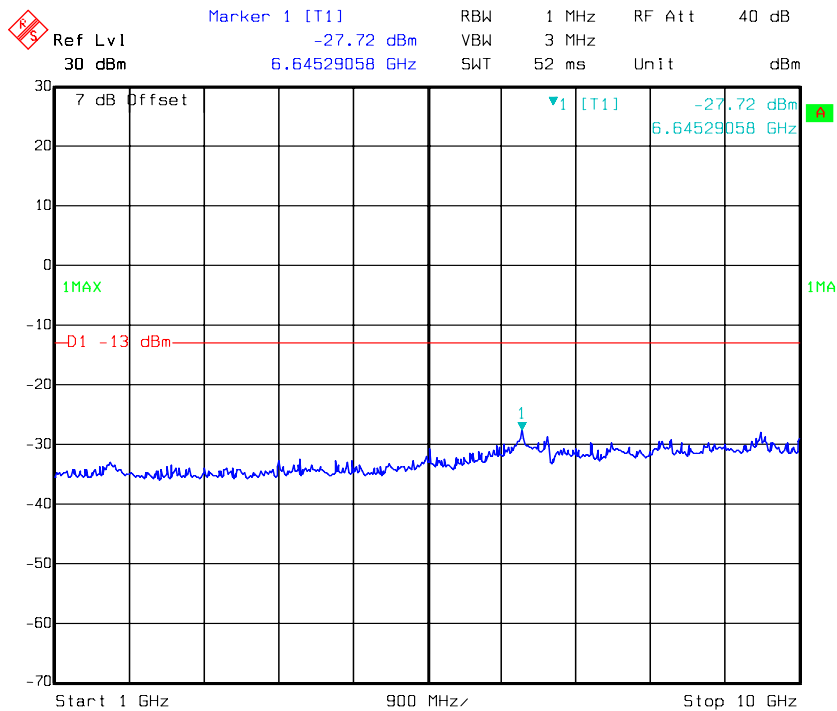




HSUPA Band II _ Middle Channel

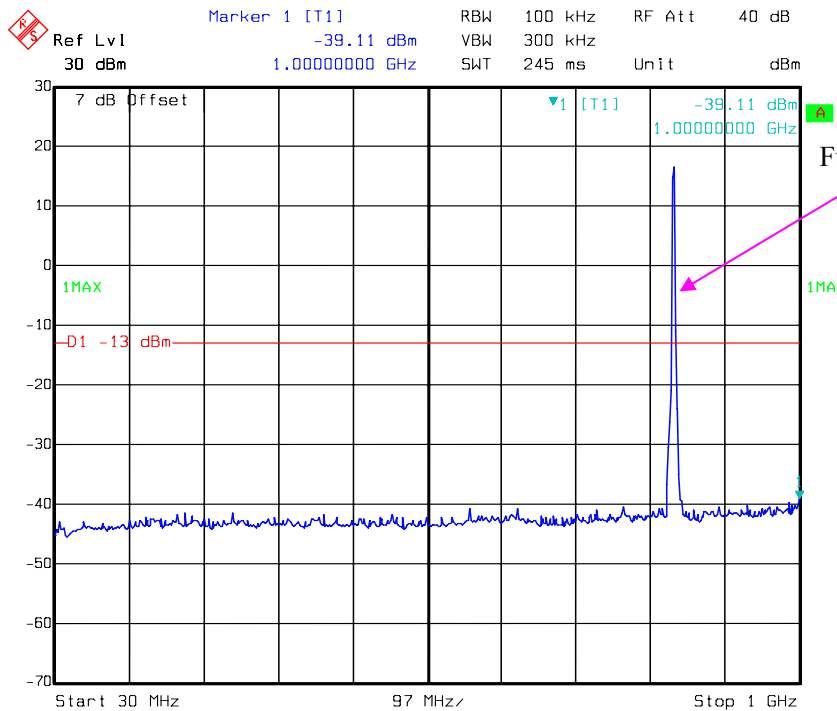




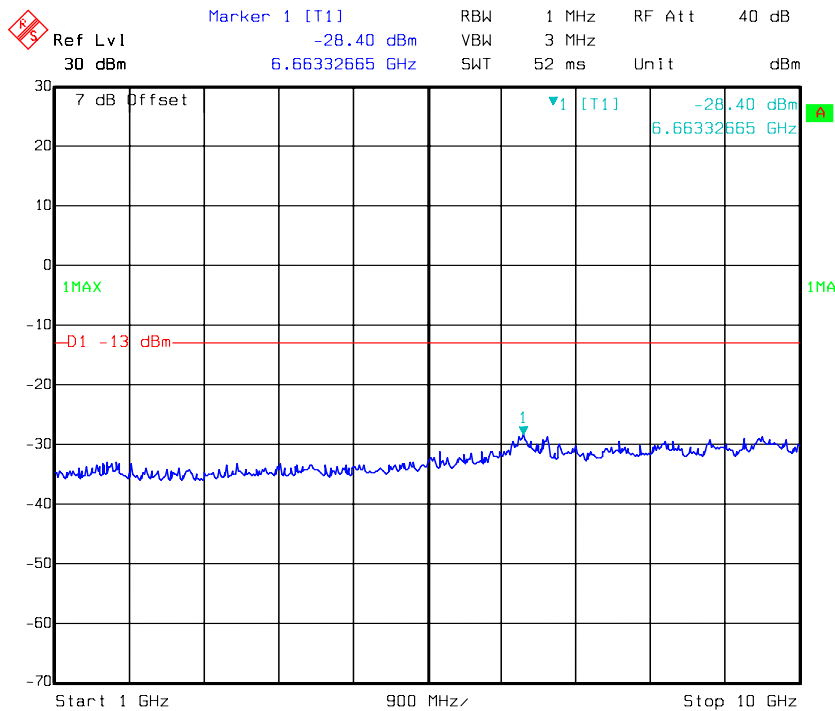


Date: 02.FEB.2016 20:54:06

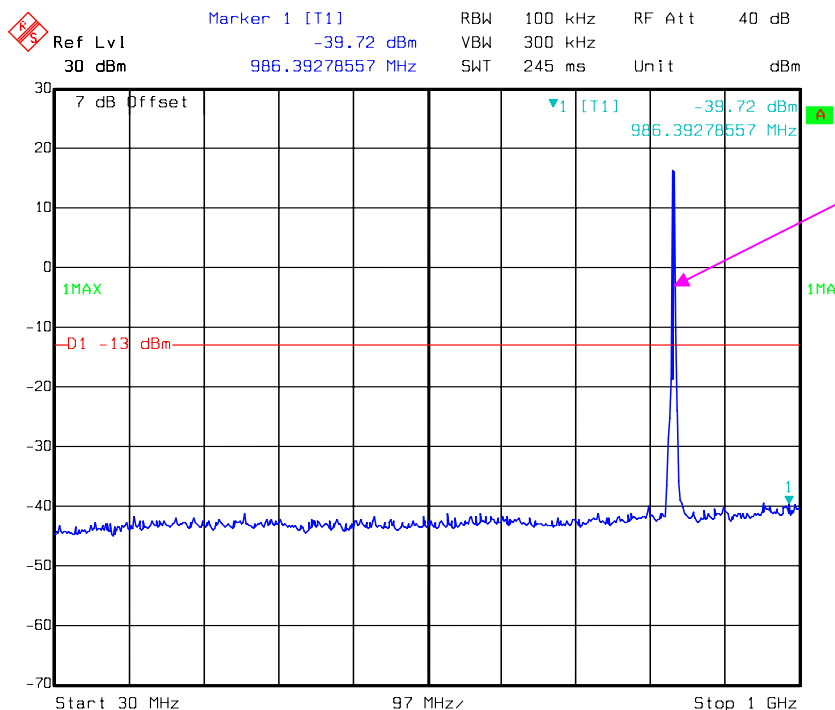
HSDPA Band V_Middle Channel



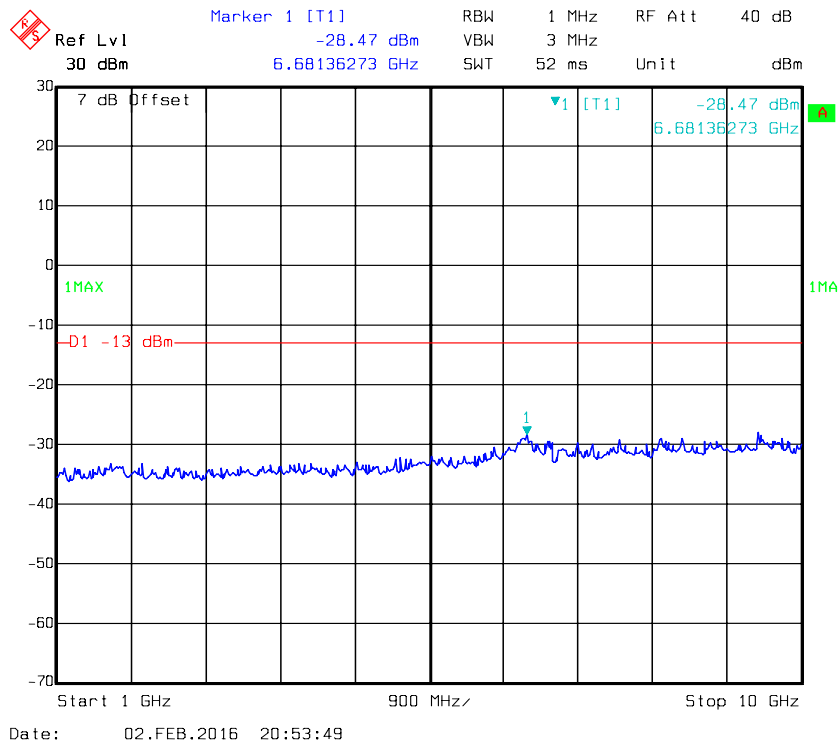
Date: 02.FEB.2016 20:50:03



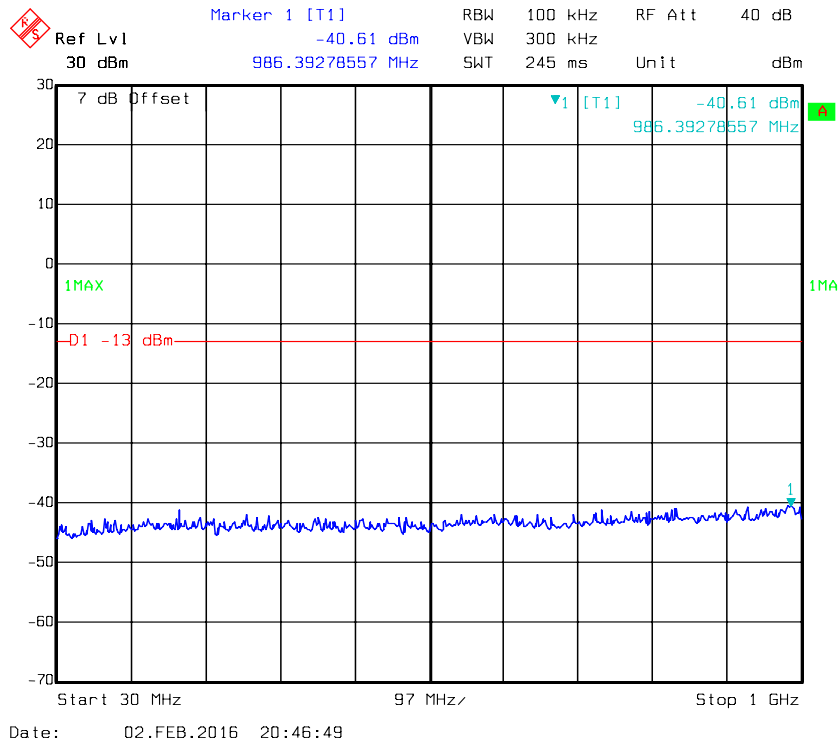
HSUPA Band V_Middle Channel

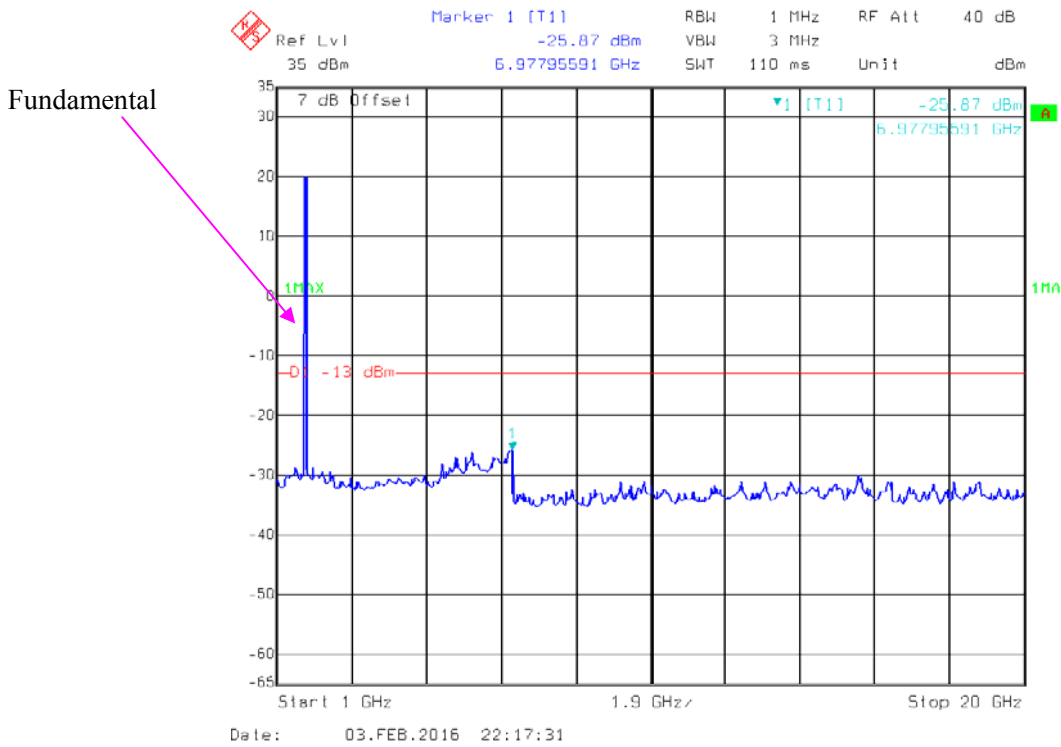


Fundamental

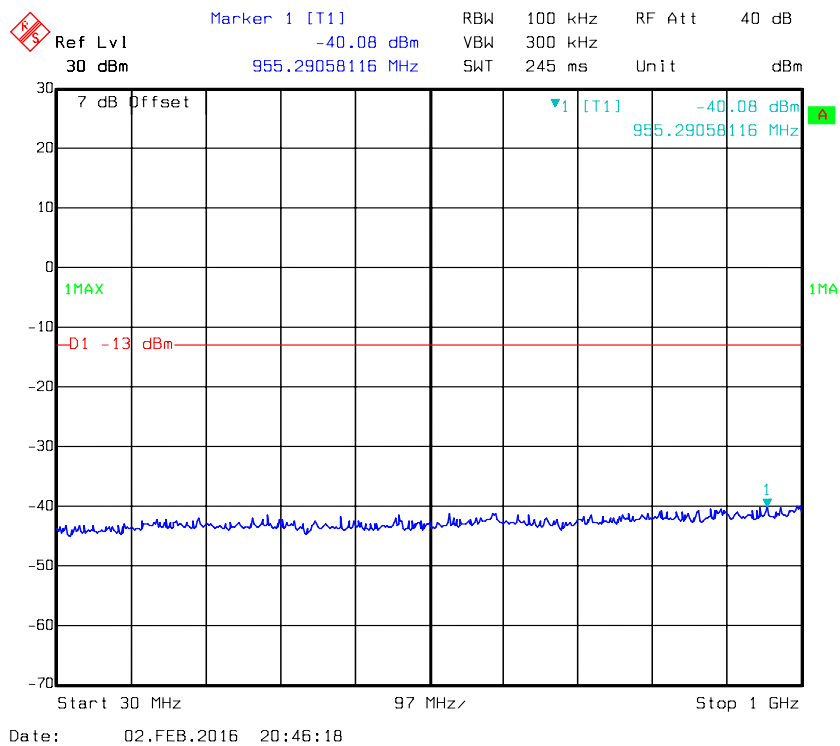


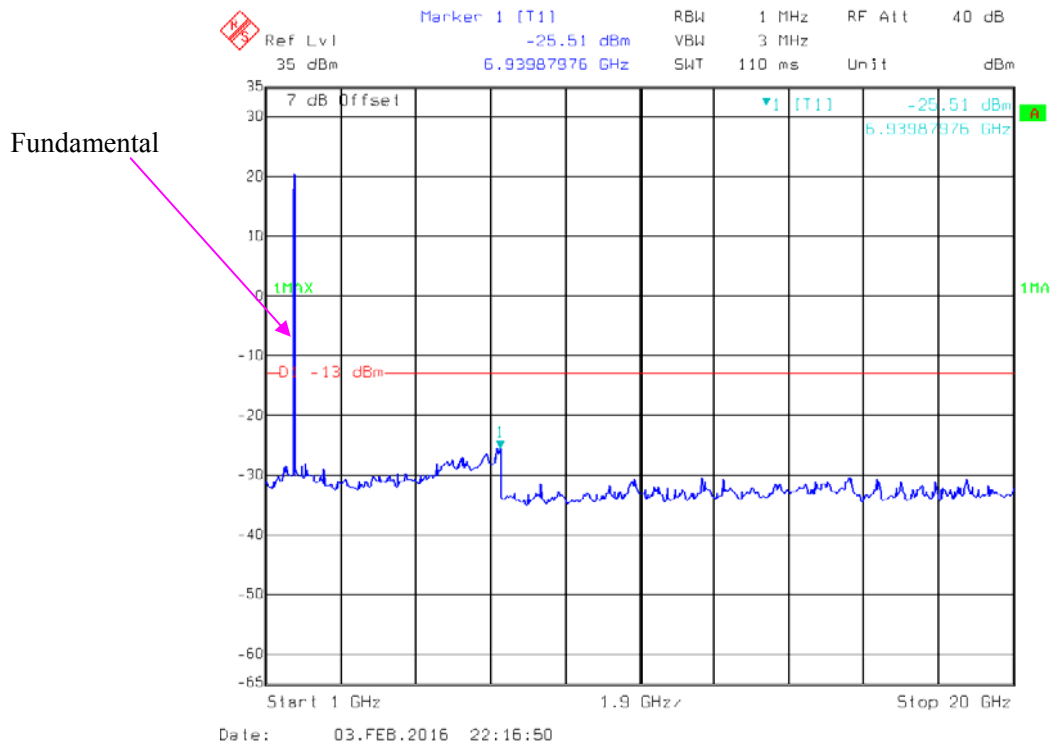
REL99 Band IV_ Middle Channel



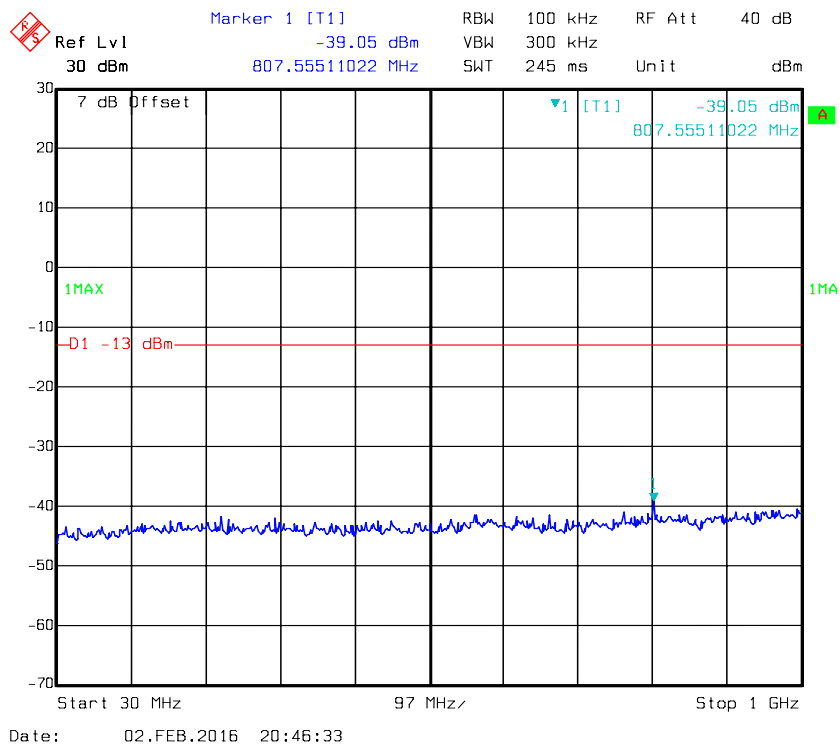


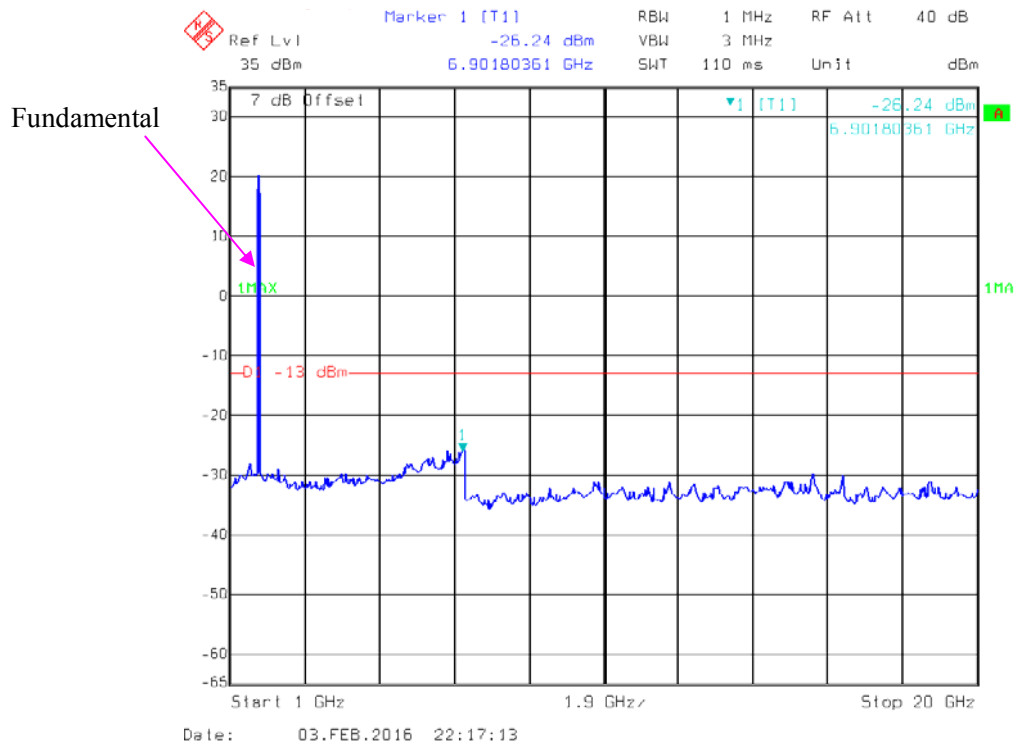
HSDPA Band IV_ Middle Channel





HSUPA Band V_ Middle Channel





FCC §2.1053, §22.917 & §24.238 & §27.53- SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917, § 24.238 and § 27.53.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log₁₀ (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-08-03	2016-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
ETS LINDGREN	Horn Antenna	3115	000 527 35	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2015-02-19	2016-02-19
Giga	Signal Generator	1026	320408	2015-11-23	2016-11-22
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2015-09-06	2018-09-06

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	19.5°C
Relative Humidity:	38 %
ATM Pressure:	102 kPa

The testing was performed by Dean Liu on 2016-02-03.

EUT Operation Mode: Transmitting

Cellular Band (PART 22H)

30 MHz-10 GHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:836.6 MHz								
1673.200	H	50.16	-50.9	10.6	1.5	-41.8	-13.0	28.8
1673.200	V	47.42	-54	10.6	1.5	-44.9	-13.0	31.9
2509.800	H	42.33	-55.7	13.1	2.8	-45.4	-13.0	32.4
2509.800	V	38.11	-59	13.1	2.8	-48.7	-13.0	35.7
314.200	H	40.21	-65.5	0.0	0.5	-66.0	-13.0	53.0
480.080	V	37.14	-51	0.0	0.7	-51.7	-13.0	38.7

WCDMA Band V

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency:836.6 MHz								
1673.200	H	49.50	-51.6	10.6	1.5	-42.5	-13.0	29.5
1673.200	V	47.76	-53.6	10.6	1.5	-44.5	-13.0	31.5
314.200	H	39.72	-66	0.0	0.5	-66.5	-13.0	53.5
480.080	V	36.02	-52.1	0.0	0.7	-52.8	-13.0	39.8

PCS Band (PART 24E)**30 MHz-20 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 1880 MHz								
3760.000	H	38.67	-55.6	13.8	2.9	-44.7	-13.0	31.7
3760.000	V	40.04	-53	13.8	2.9	-42.1	-13.0	29.1
314.200	H	39.65	-66.1	0.0	0.5	-66.6	-13.0	53.6
480.080	V	37.02	-51.1	0.0	0.7	-51.8	-13.0	38.8

WCDMA Band II

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 1880 MHz								
3760.000	H	34.02	-60.3	13.8	2.9	-49.4	-13.0	36.4
3760.000	V	34.90	-58.2	13.8	2.9	-47.3	-13.0	34.3
314.200	H	39.32	-66.4	0.0	0.5	-66.9	-13.0	53.9
480.080	V	37.24	-50.9	0.0	0.7	-51.6	-13.0	38.6

PART 27**30 MHz-20 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB μ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.G. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 1732.6 MHz								
3465.200	H	32.58	-64.4	13.9	1.9	-52.4	-13.0	39.4
3465.200	V	33.08	-63.1	13.9	1.9	-51.1	-13.0	38.1
314.200	H	39.32	-66.4	0.0	0.5	-66.9	-13.0	53.9
480.080	V	36.87	-51.2	0.0	0.7	-51.9	-13.0	38.9

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = SG Level - Cable loss + Antenna Gain
- 3) Margin = Limit - Absolute Level

FCC §22.917(a) & §24.238(a) & §27.53(h) - BAND EDGES

Applicable Standard

According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

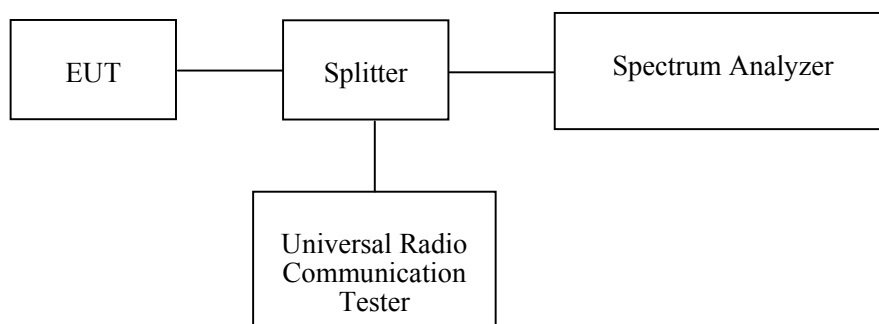
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §27.53 (h), AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-05-09	2016-05-09
R&S	Universal Radio Communication Tester	CMU200	109038	2015-05-09	2016-05-09

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

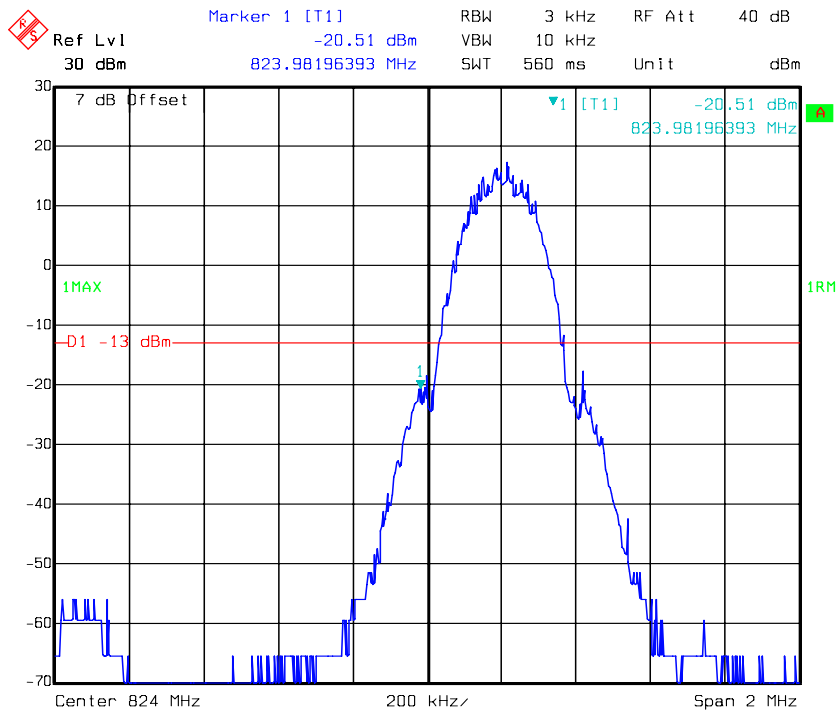
Temperature:	19.3 °C
Relative Humidity:	43 %
ATM Pressure:	102 kPa

The testing was performed by Dean Liu on 2016-02-02.

Test Mode: Transmitting

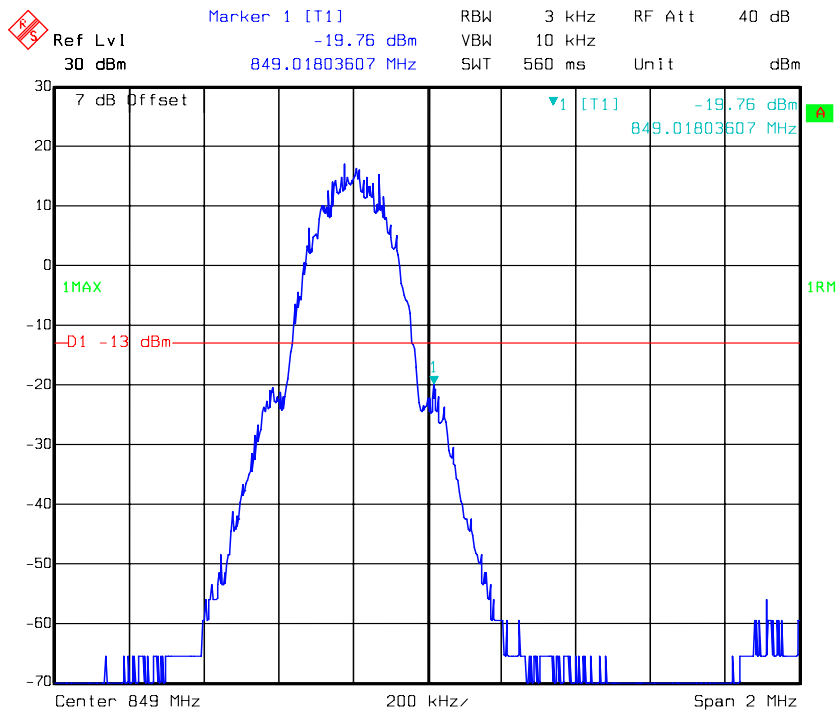
Test Result: Compliance. Please refer to the following plots.

GSM 850, Left Band Edge



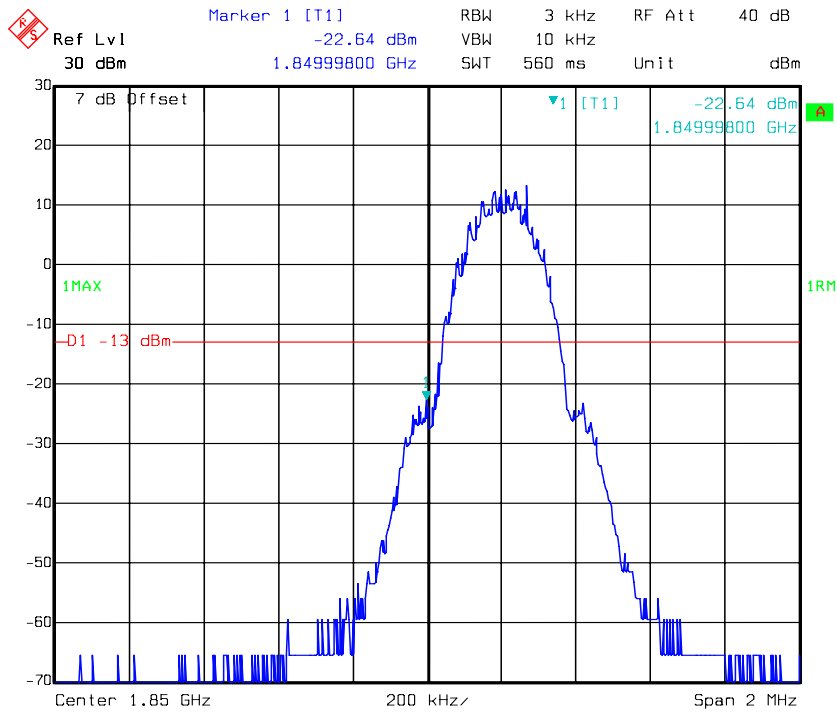
Date: 02.FEB.2016 19:46:18

GSM 850, Right Band Edge



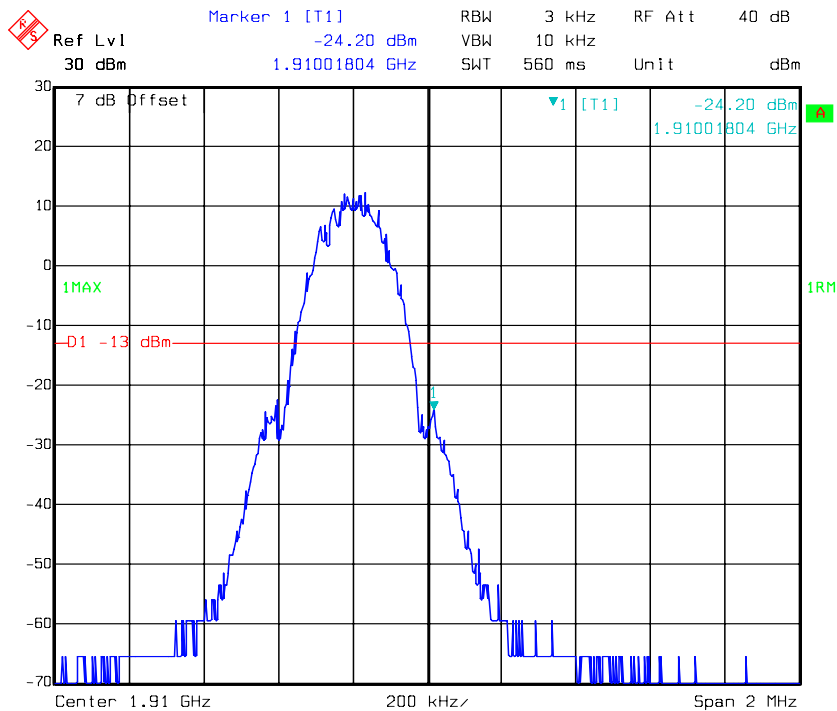
Date: 02.FEB.2016 19:47:26

GSM 1900, Left Band Edge



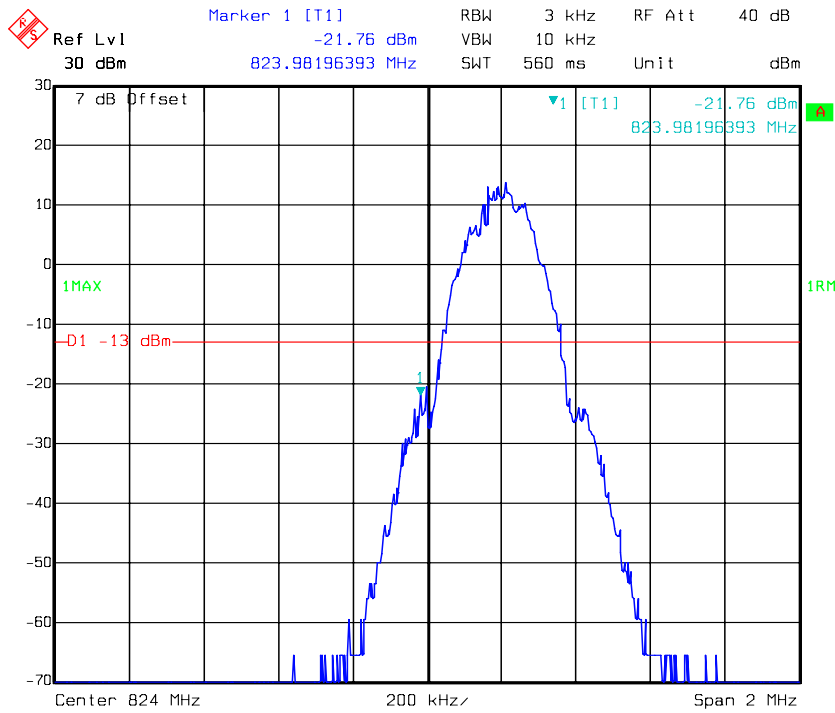
Date: 02.FEB.2016 20:05:20

GSM 1900, Right Band Edge



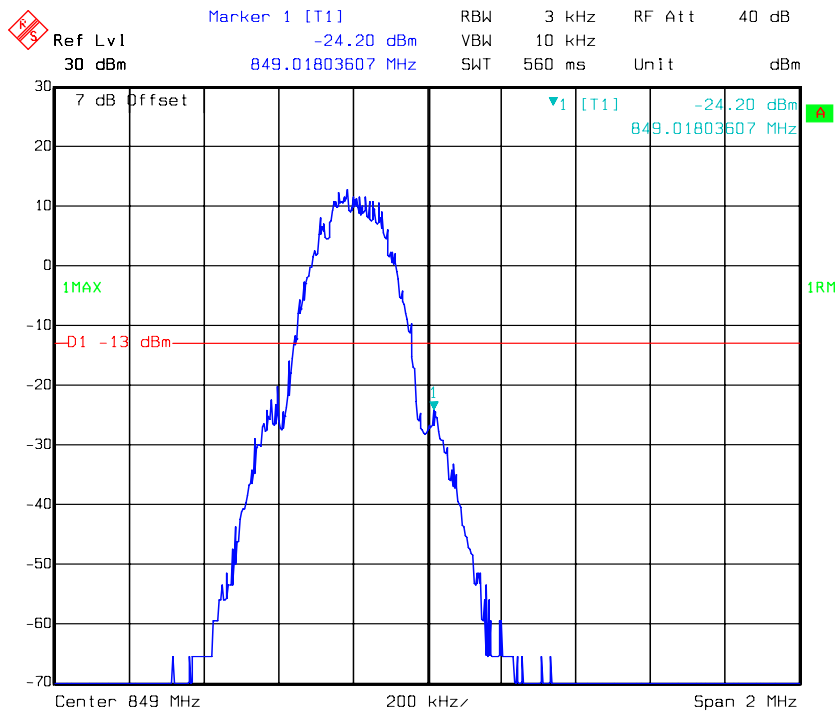
Date: 02.FEB.2016 20:06:33

EDGE 850, Left Band Edge



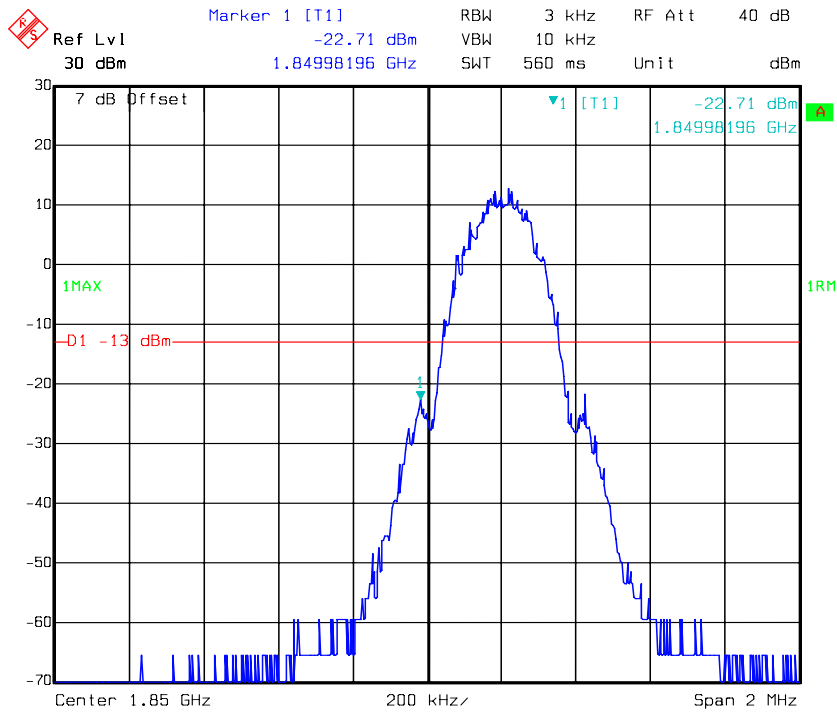
Date: 02.FEB.2016 23:36:22

EDGE 850, Right Band Edge



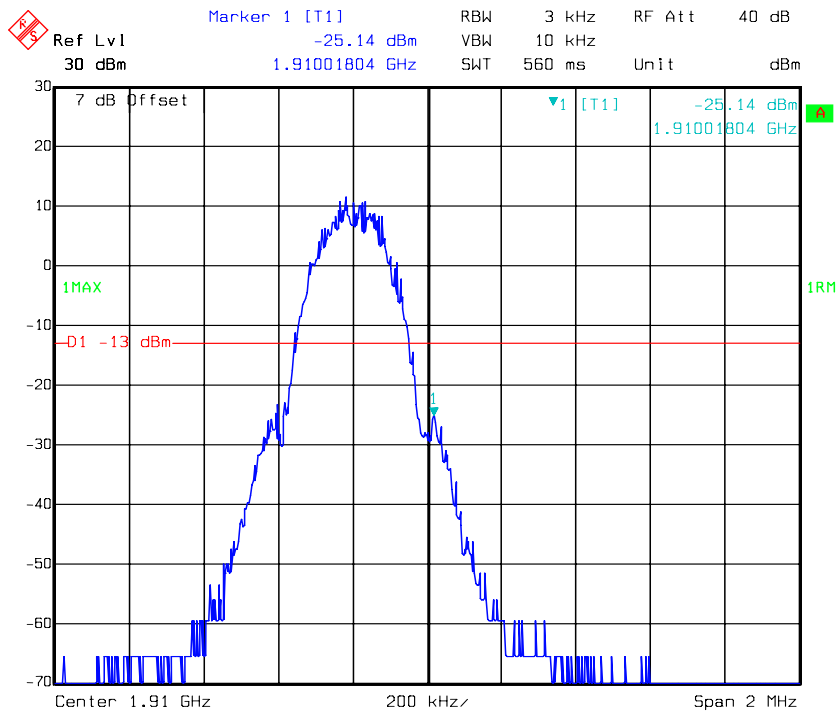
Date: 02.FEB.2016 23:37:20

EDGE 1900, Left Band Edge



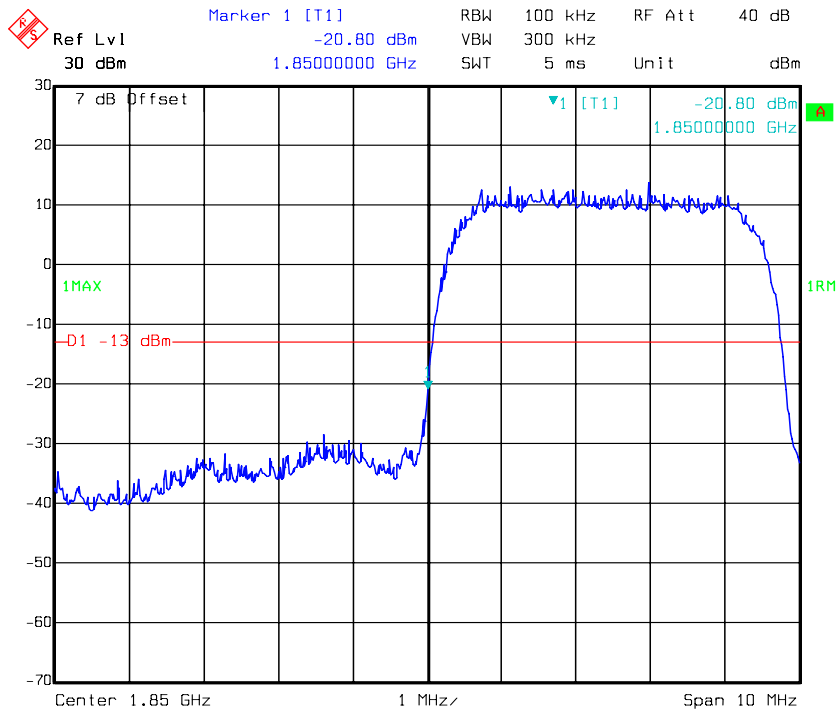
Date: 02.FEB.2016 23:52:29

EDGE 1900, Right Band Edge



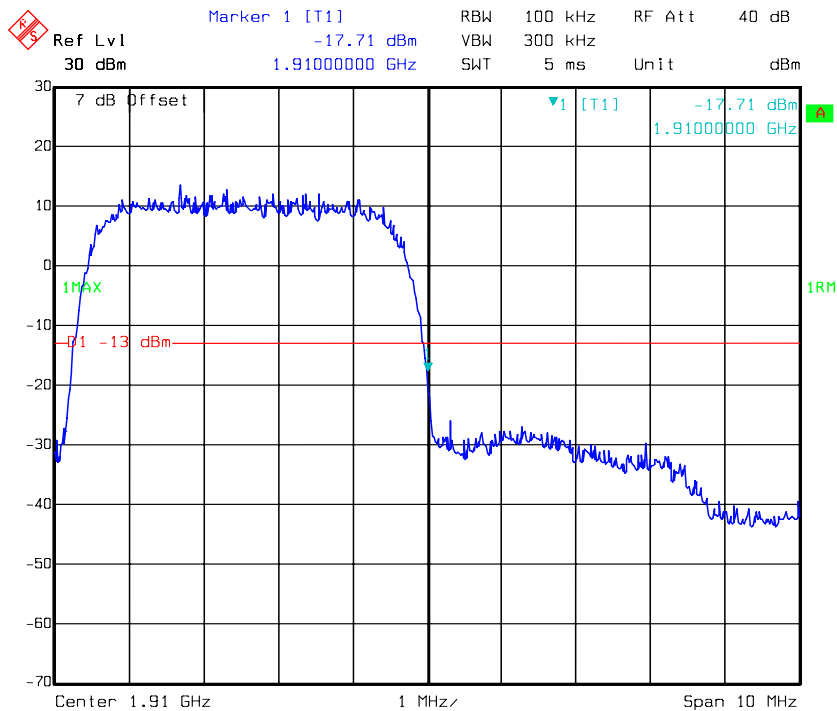
Date: 02.FEB.2016 23:53:05

REL99 Band II, Left Band Edge



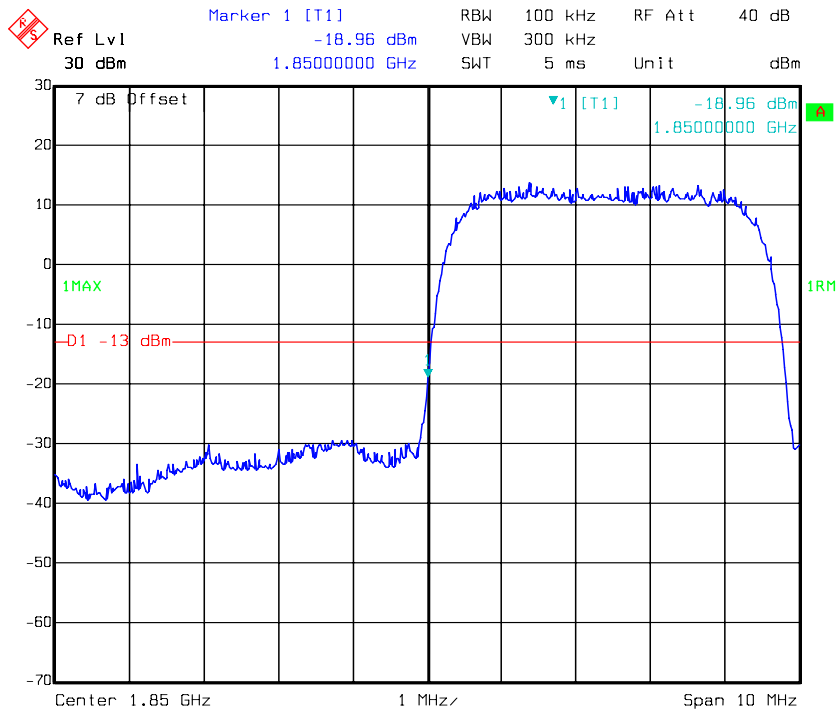
Date: 02.FEB.2016 20:25:41

REL99 Band II, Right Band Edge



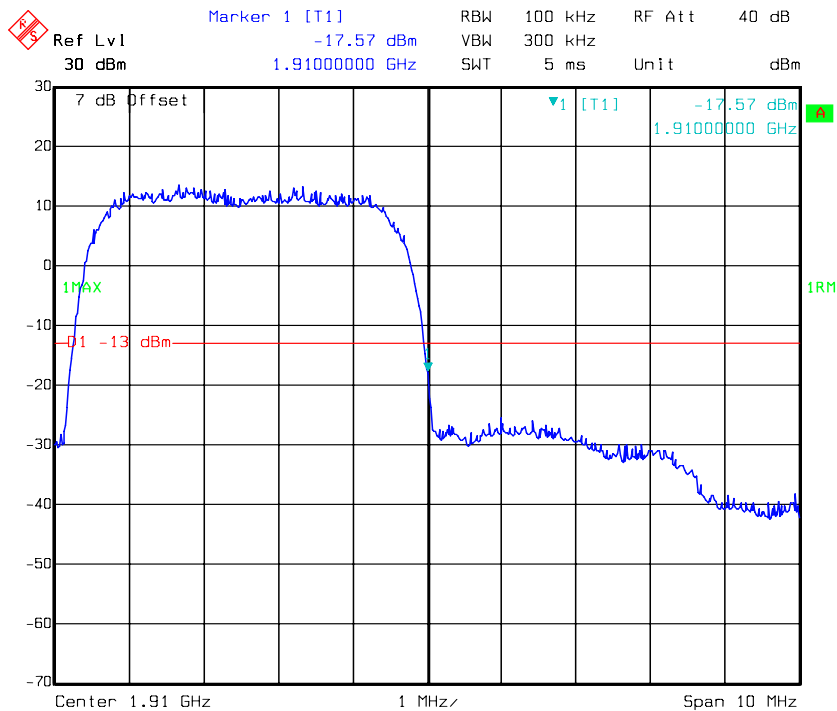
Date: 02.FEB.2016 20:28:40

HSDPA Band II, Left Band Edge



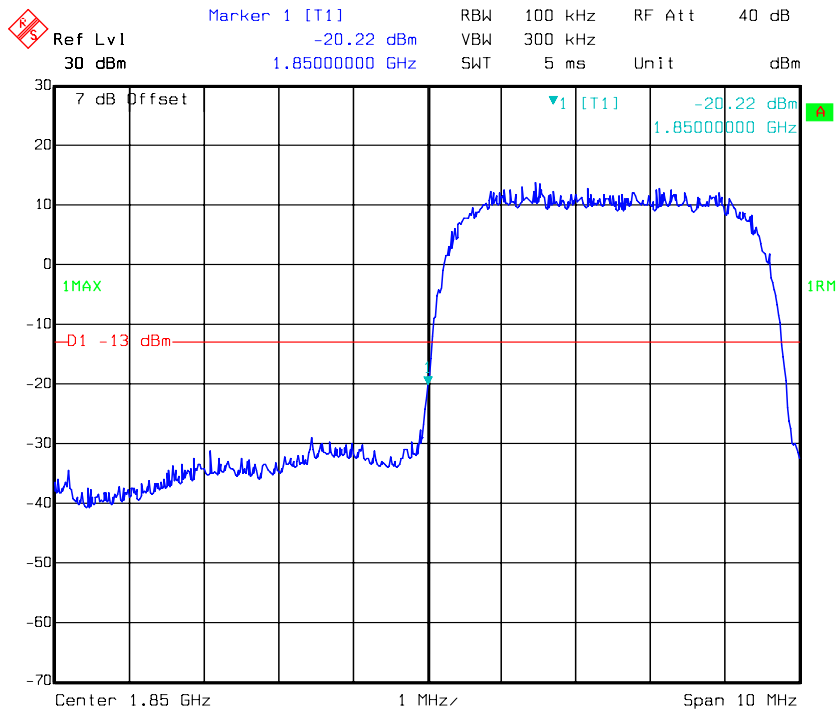
Date: 02.FEB.2016 20:24:20

HSDPA Band II, Right Band Edge



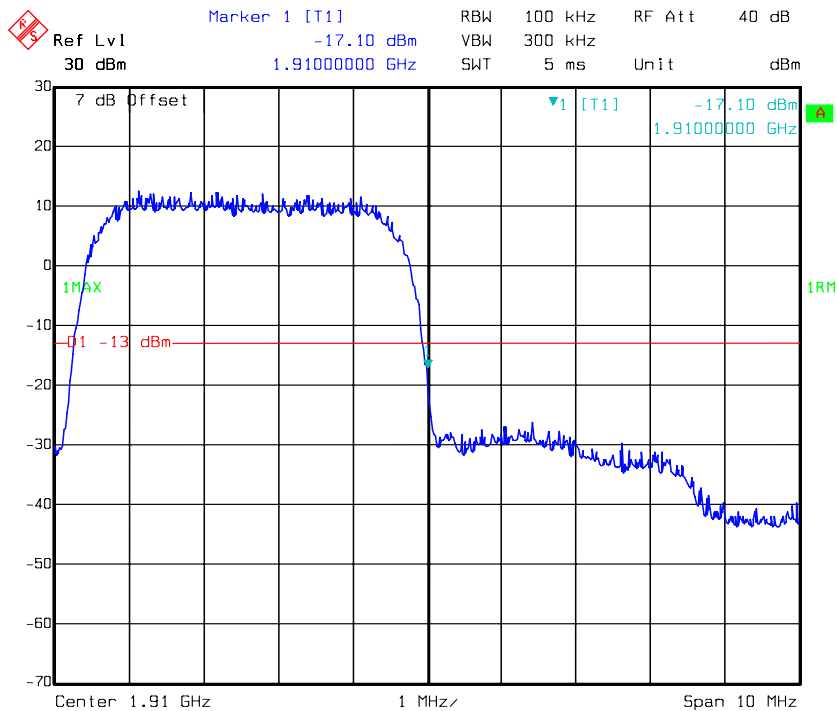
Date: 02.FEB.2016 20:28:20

HSUPA Band II, Left Band Edge



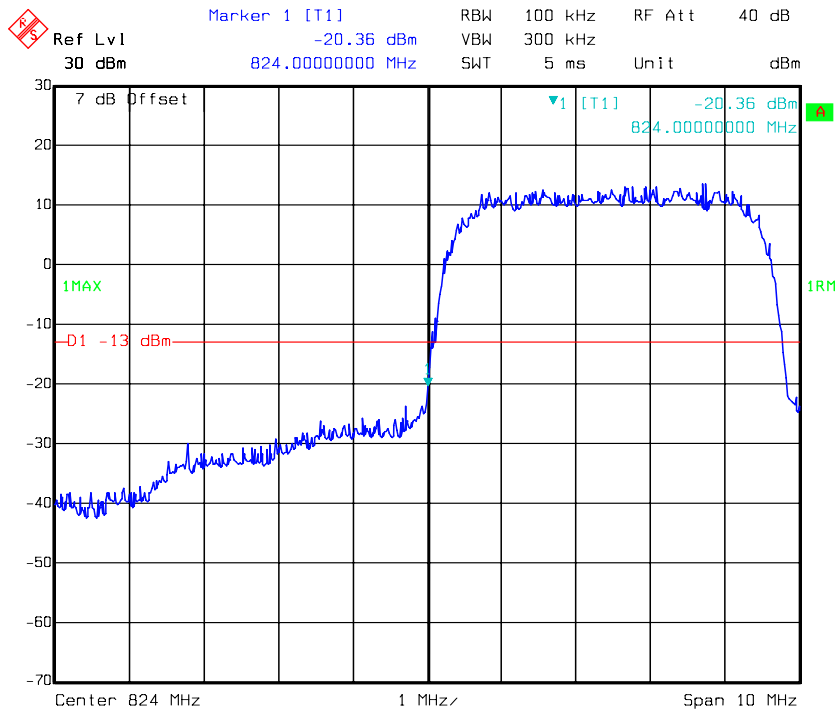
Date: 02.FEB.2016 20:24:39

HSUPA Band II, Right Band Edge

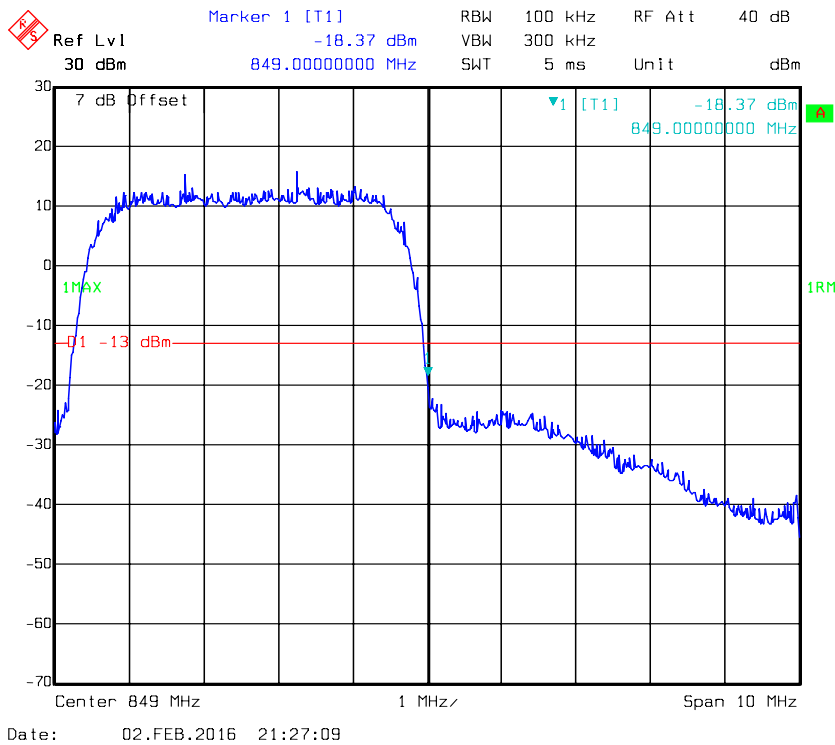


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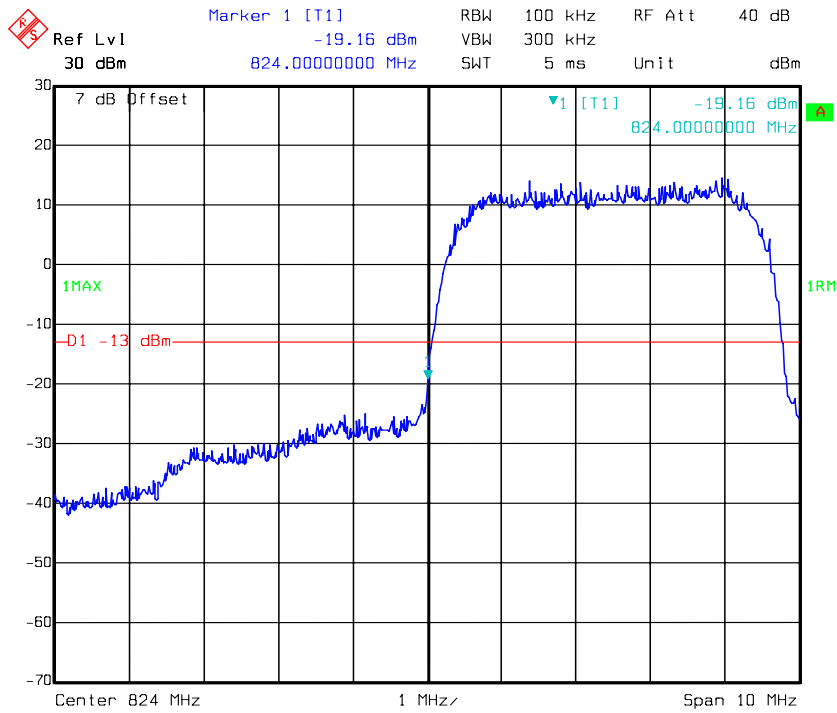
REL99 Band V, Left Band Edge



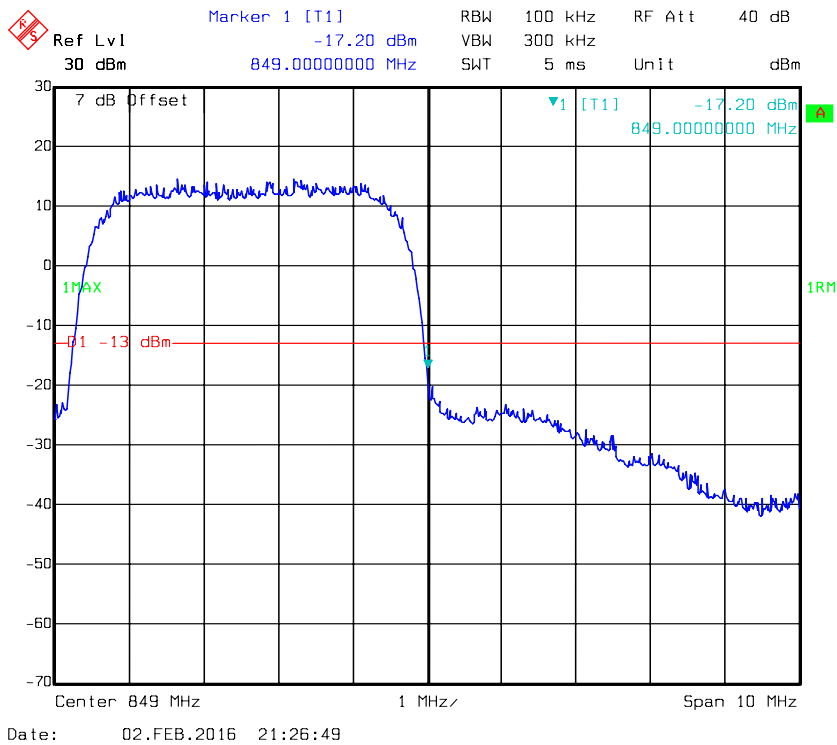
REL99 Band V Right Band Edge



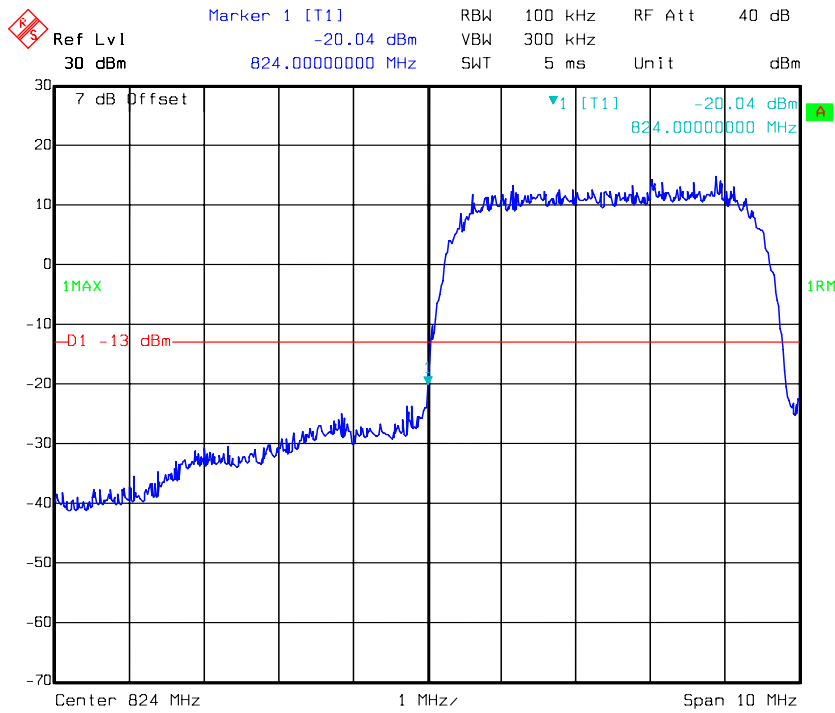
HSDPA Band V, Left Band Edge



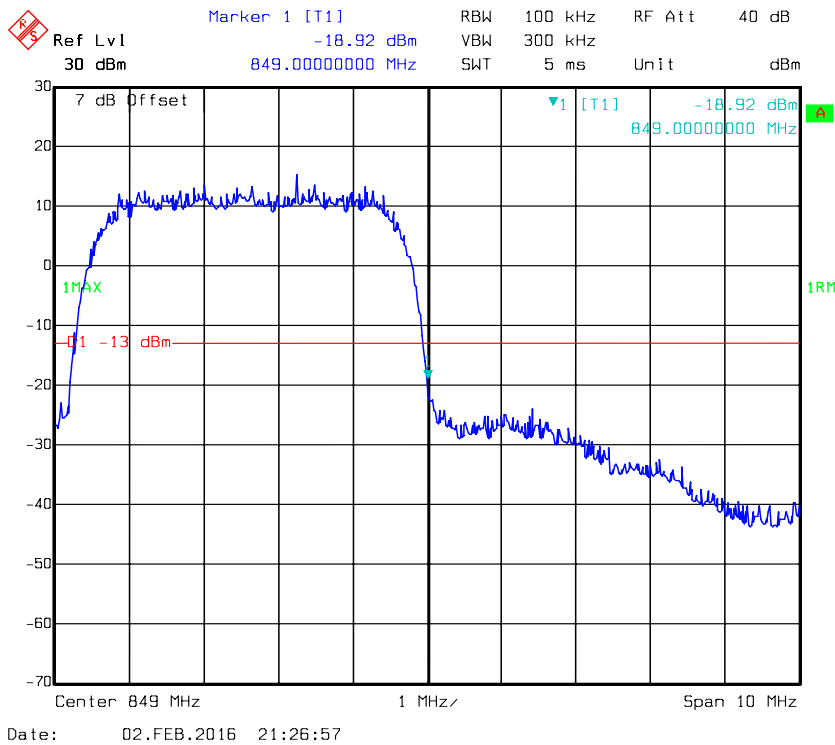
HSDPA Band V, Right Band Edge



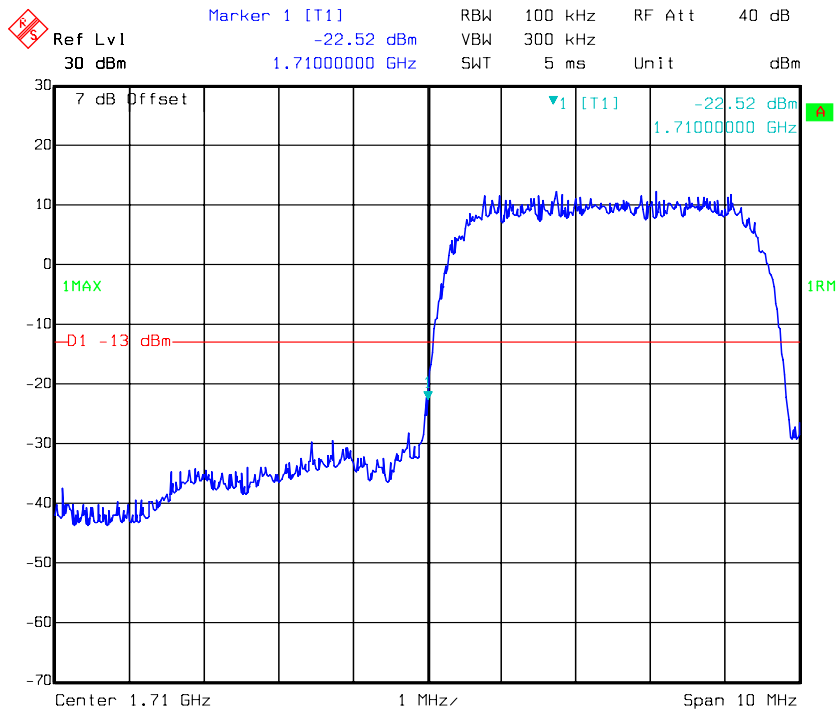
HSUPA Band V, Left Band Edge



HSUPA Band V, Right Band Edge

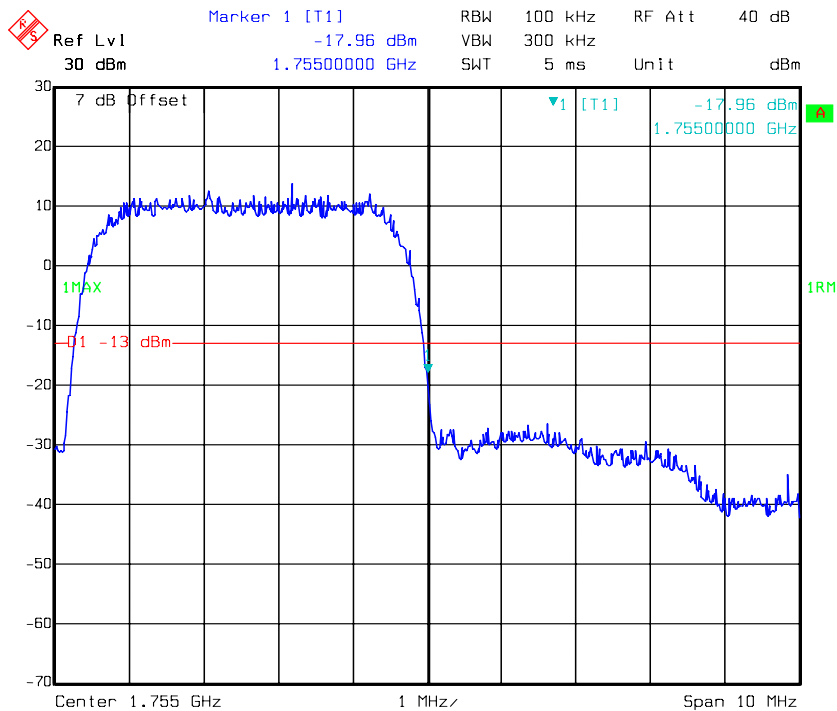


REL99 Band IV, Left Band Edge



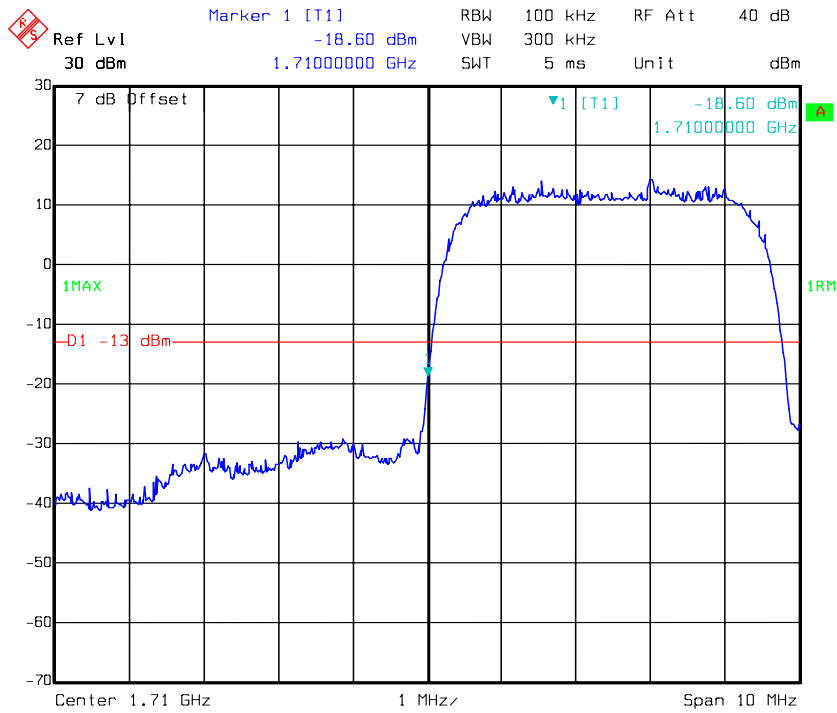
Date: 02.FEB.2016 21:20:16

REL99 Band IV Right Band Edge



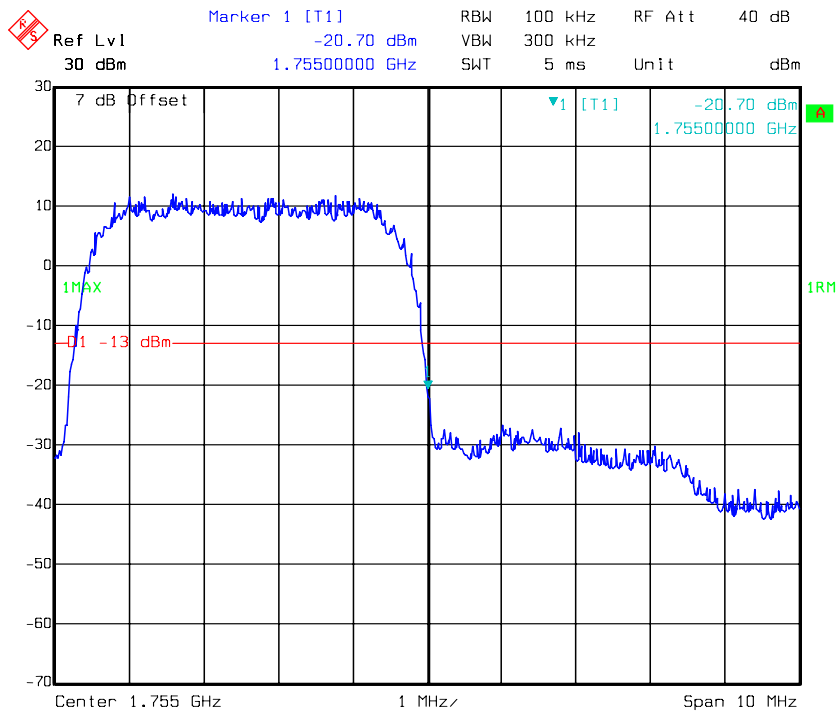
Date: 02.FEB.2016 21:22:24

HSDPA Band IV, Left Band Edge



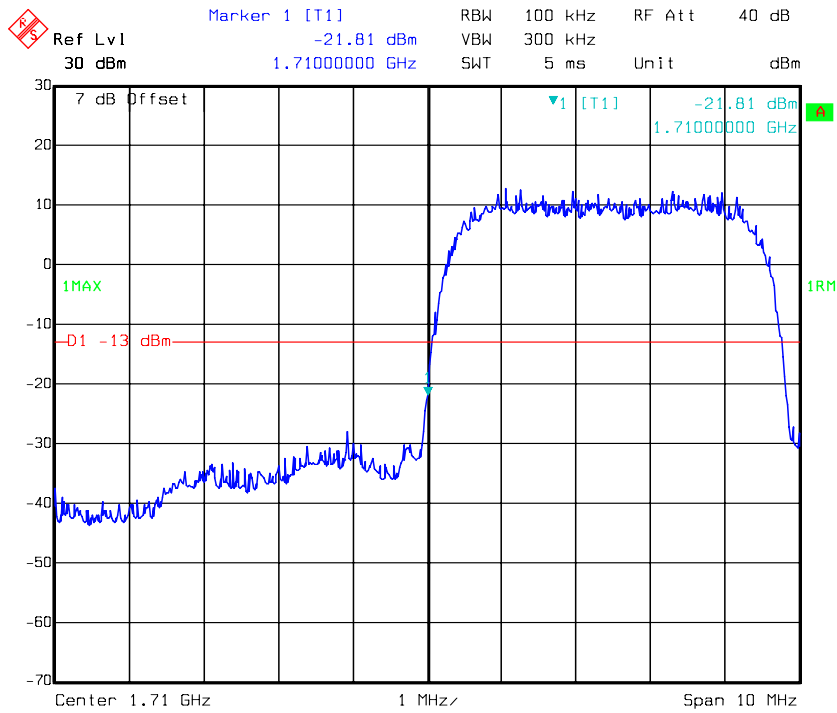
Date: 02.FEB.2016 21:19:55

HSDPA Band IV, Right Band Edge

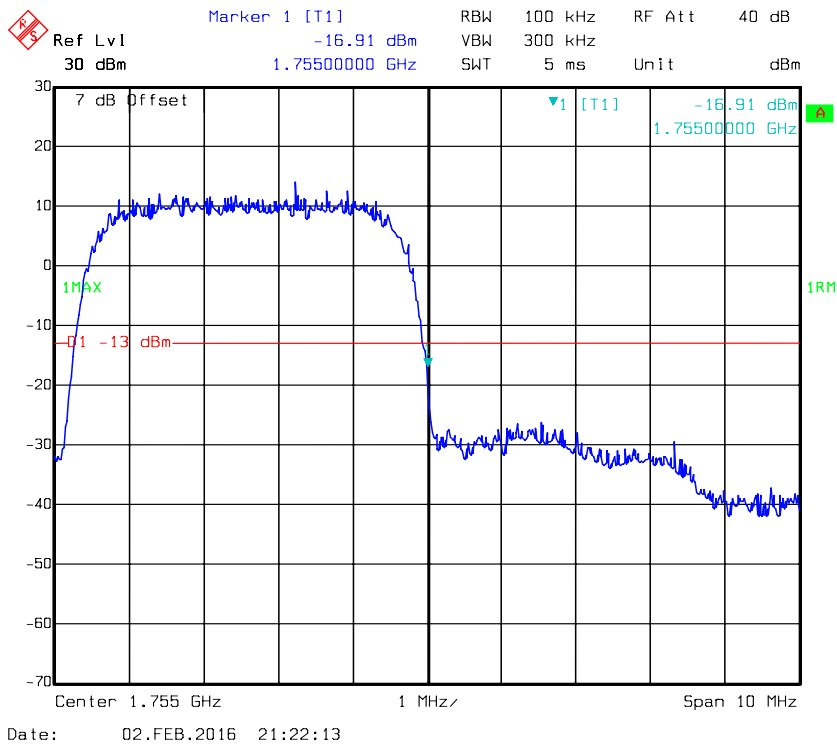


Date: 02.FEB.2016 21:22:02

HSUPA Band IV, Left Band Edge



HSUPA Band IV, Right Band Edge



FCC §2.1055, §22.355 & §24.235 & §27.54 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235, §27.54

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

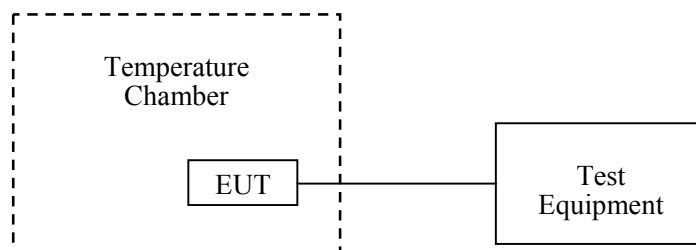
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set from 85% to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the battery end point. The output frequency was recorded for each battery voltage.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-3	2015-09-10	2016-09-09
R&S	Universal Radio Communication Tester	CMU200	109 038	2015-05-09	2016-05-09

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	19.3 °C
Relative Humidity:	43 %
ATM Pressure:	102 kPa

The testing was performed by Dean Liu on 2016-02-03.

Cellular Band (Part 22H)

GMSK, Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.7	-5.00	-0.006	2.5
-20	3.7	1	0.001	2.5
-10	3.7	6	0.007	2.5
0	3.7	-3	-0.004	2.5
10	3.7	7	0.008	2.5
20	3.7	0	0.000	2.5
30	3.7	-2	-0.002	2.5
40	3.7	5	0.006	2.5
50	3.7	2	0.002	2.5
25	3.5	6	0.007	2.5
25	4.2	3	0.004	2.5

8PSK, Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.7	-6	-0.007	2.5
-20	3.7	5	0.006	2.5
-10	3.7	-1	-0.001	2.5
0	3.7	4	0.005	2.5
10	3.7	0	0.000	2.5
20	3.7	3	0.004	2.5
30	3.7	-4	-0.005	2.5
40	3.7	-5	-0.006	2.5
50	3.7	-1	-0.001	2.5
25	3.5	-3	-0.004	2.5
25	4.2	-7	-0.008	2.5

WCDMA Band V: Re199

Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.7	-2	-0.002	2.5
-20	3.7	4	0.005	2.5
-10	3.7	-6	-0.007	2.5
0	3.7	1	0.001	2.5
10	3.7	4	0.005	2.5
20	3.7	-2	-0.002	2.5
30	3.7	4	0.005	2.5
40	3.7	-2	-0.002	2.5
50	3.7	4	0.005	2.5
25	3.5	4	0.005	2.5
25	4.2	-3	-0.004	2.5

WCDMA Band V: HSDPA

Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.7	-7	-0.008	2.5
-20	3.7	0	0.000	2.5
-10	3.7	3	0.004	2.5
0	3.7	-5	-0.006	2.5
10	3.7	3	0.004	2.5
20	3.7	-1	-0.001	2.5
30	3.7	3	0.004	2.5
40	3.7	0	0.000	2.5
50	3.7	4	0.005	2.5
25	3.5	3	0.004	2.5
25	4.2	-3	-0.004	2.5

WCDMA Band V: HSUPA

Middle Channel, $f_c = 836.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Limit
°C	V _{DC}	Hz	ppm	ppm
-30	3.7	8	0.010	2.5
-20	3.7	4	0.005	2.5
-10	3.7	5	0.006	2.5
0	3.7	5	0.006	2.5
10	3.7	-3	-0.004	2.5
20	3.7	5	0.006	2.5
30	3.7	-2	-0.002	2.5
40	3.7	5	0.006	2.5
50	3.7	0	0.000	2.5
25	3.5	5	0.006	2.5
25	4.2	-4	-0.005	2.5

PCS Band (Part 24E)

GMSK, Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V_{DC}	Hz	ppm	
-30	3.7	-14	-0.007	Compliance
-20	3.7	-8	-0.004	Compliance
-10	3.7	-7	-0.004	Compliance
0	3.7	-12	-0.006	Compliance
10	3.7	-11	-0.006	Compliance
20	3.7	-3	-0.002	Compliance
30	3.7	-2	-0.001	Compliance
40	3.7	-11	-0.006	Compliance
50	3.7	-8	-0.004	Compliance
25	3.5	-4	-0.002	Compliance
25	4.2	0	0.000	Compliance

8PSK, Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V_{DC}	Hz	ppm	
-30	3.7	-16	-0.009	Compliance
-20	3.7	-10	-0.005	Compliance
-10	3.7	-11	-0.006	Compliance
0	3.7	-13	-0.007	Compliance
10	3.7	-7	-0.004	Compliance
20	3.7	-12	-0.006	Compliance
30	3.7	-5	-0.003	Compliance
40	3.7	-4	-0.002	Compliance
50	3.7	-11	-0.006	Compliance
25	3.5	-9	-0.005	Compliance
25	4.2	-5	-0.003	Compliance

WCDMA Band II: Re199

Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.7	-6	-0.003	Compliance
-20	3.7	-9	-0.005	Compliance
-10	3.7	-4	-0.002	Compliance
0	3.7	-8	-0.004	Compliance
10	3.7	-8	-0.004	Compliance
20	3.7	1	0.001	Compliance
30	3.7	-2	-0.001	Compliance
40	3.7	-5	-0.003	Compliance
50	3.7	1	0.001	Compliance
25	3.5	-7	-0.004	Compliance
25	4.2	-7	-0.004	Compliance

WCDMA Band II: HSDPA

Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.7	-5	-0.003	Compliance
-20	3.7	-3	-0.002	Compliance
-10	3.7	1	0.001	Compliance
0	3.7	-2	-0.001	Compliance
10	3.7	3	0.002	Compliance
20	3.7	-2	-0.001	Compliance
30	3.7	4	0.002	Compliance
40	3.7	-2	-0.001	Compliance
50	3.7	0	0.000	Compliance
25	3.5	-2	-0.001	Compliance
25	4.2	-1	-0.001	Compliance

WCDMA Band II: HSUPA

Middle Channel, $f_c = 1880.0$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.7	-6	-0.003	Compliance
-20	3.7	-3	-0.002	Compliance
-10	3.7	-3	-0.002	Compliance
0	3.7	1	0.001	Compliance
10	3.7	-4	-0.002	Compliance
20	3.7	0	0.000	Compliance
30	3.7	-4	-0.002	Compliance
40	3.7	1	0.001	Compliance
50	3.7	4	0.002	Compliance
25	3.5	4	0.002	Compliance
25	4.2	2	0.001	Compliance

WCDMA Band IV: Re199

Middle Channel, $f_c = 1732.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.7	-12	-0.006	Compliance
-20	3.7	-14	-0.007	Compliance
-10	3.7	-11	-0.006	Compliance
0	3.7	-18	-0.010	Compliance
10	3.7	-17	-0.009	Compliance
20	3.7	-8	-0.004	Compliance
30	3.7	-11	-0.006	Compliance
40	3.7	-18	-0.010	Compliance
50	3.7	-7	-0.004	Compliance
25	3.5	-18	-0.010	Compliance
25	4.2	-14	-0.007	Compliance

WCDMA Band IV: HSDPA

Middle Channel, $f_c = 1732.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.7	3	0.002	Compliance
-20	3.7	-2	-0.001	Compliance
-10	3.7	4	0.002	Compliance
0	3.7	-3	-0.002	Compliance
10	3.7	-2	-0.001	Compliance
20	3.7	7	0.004	Compliance
30	3.7	4	0.002	Compliance
40	3.7	-3	-0.002	Compliance
50	3.7	8	0.004	Compliance
25	3.5	-3	-0.002	Compliance
25	4.2	1	0.001	Compliance

WCDMA Band IV: HSUPA

Middle Channel, $f_c = 1732.6$ MHz				
Temperature	Voltage	Frequency Error	Frequency Error	Result
°C	V _{DC}	Hz	ppm	
-30	3.7	5	0.003	Compliance
-20	3.7	-2	-0.001	Compliance
-10	3.7	4	0.002	Compliance
0	3.7	-3	-0.002	Compliance
10	3.7	-2	-0.001	Compliance
20	3.7	7	0.004	Compliance
30	3.7	4	0.002	Compliance
40	3.7	-3	-0.002	Compliance
50	3.7	8	0.004	Compliance
25	3.5	-3	-0.002	Compliance
25	4.2	1	0.001	Compliance

Note: The fundamental emissions stay within the authorized bands of operation based on the frequency deviation measured is small.

******* END OF REPORT *******