

FCC Part 22H&24E&27M Test Report

Product Name : Module

Trade Name : 

Model No. : LE910C1-LA, LE910C4-LA

FCC ID : RI7LE910CXLA

Applicant : Telit Communications S.p.A.

Address : Viale Stazione di Prosecco, 5/B, 34010 Sgonico TRIESTE – ITALY

Date of Receipt : Jul. 15, 2019

Issued Date : Jul. 25, 2019

Report No. : 1970268R-HPUSP28V00

Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : Jul. 25, 2019

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Product Name : Module
Applicant : Telit Communications S.p.A.
Address : Viale Stazione di Prosecco, 5/B, 34010 Sgonico TRIESTE – ITALY
Manufacturer : Telit Communications S.p.A.
Address : Via Stazione di Prosecco, 5/B, 34010 Sgonico TRIESTE – ITALY
Address : Via Stazione di Prosecco, 5/B, 34010 Sgonico TRIESTE – ITALY
Model No. : LE910C1-LA, LE910C4-LA
FCC ID : RI7LE910CXLA
EUT Voltage : DC 3.8V
Testing Voltage : DC 3.8V
Trade Name : 
Applicable Standard : FCC CFR Title 47 Part 2, ANSI/TIA-603-D
FCC Part 22 Subpart H, FCC Part 24 Subpart E,
FCC Part 27 Subpart M
Test Lab : Hsin Chu Laboratory
Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result : Complied

Documented By :



(Fonbo Fang / Engineering Adm. Specialist)

Tested By :



(Clemens Fang / Senior Engineer)

Approved By :



(Louis Hsu / Deputy Manager)

Revision History

Report No.	Version	Description	Issued Date
1970268R-HPUSP28V00	V1.0	Initial issue of report	Jul. 25, 2019

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1. General Information

1.1. EUT Description

Product Name	Module
Trade Name	
Model No.	LE910C1-LA, LE910C4-LA
Tx Frequency Range/ Channel number	WCDMA Band 2: 1852.4-1907.6 MHz WCDMA Band 4: 1712.4-1752.6 MHz WCDMA Band 5: 826.4-846.6 MHz
Rx Frequency Range/ Channel number	WCDMA Band 2: 1932.4-1987.6 MHz WCDMA Band 4: 2112.4-2152.6 MHz WCDMA Band 5: 871.4-891.6 MHz
Type of Modulation	WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink)
HW Version	1.0
Firmwave Version	25.20.272-B024

Accessories Information	
Antenna	1 pcs

Antenna Information	
MFR. / Model	Hankook / WE14-LF-07
Antenna Type	Dipole Antenna
Antenna Gain	Band 5: 1.5dBi Band 2/4: 3.5dBi

Note:

1. This device support GSM 850, PCS 1900, WCDMA Band 2/4/5 and LTE Band 2/4/5/7.
2. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
3. For customer needs, reuse the LE910C1-LA test data from original report 1930357R and add one model LE910C4-LA to apply for a new FCC ID. Please find the declaration in attachment 4, the difference between LE910C1-LA and LE910C4-LA is replace a baseband chip, two of baseband Qualcomm chip has different capability. The different of each model is shown as below:

Report Number	Model Name	Description
1930357R	LE910C1-LA (FCC ID: RI7LE910C1LA)	LE910C1-LA: Qualcomm (MDM9207-1) support DL speed for category 1.
1970268R	LE910C1-LA, LE910C4-LA (FCC ID: RI7LE910CXLA)	LE910C4-LA: Qualcomm (MDM9207-0) support DL speed for category 4.

After the evaluation, this change does not affect the RF function, so no verification is required.
In addition to the above information, this device is identical with original project.

1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

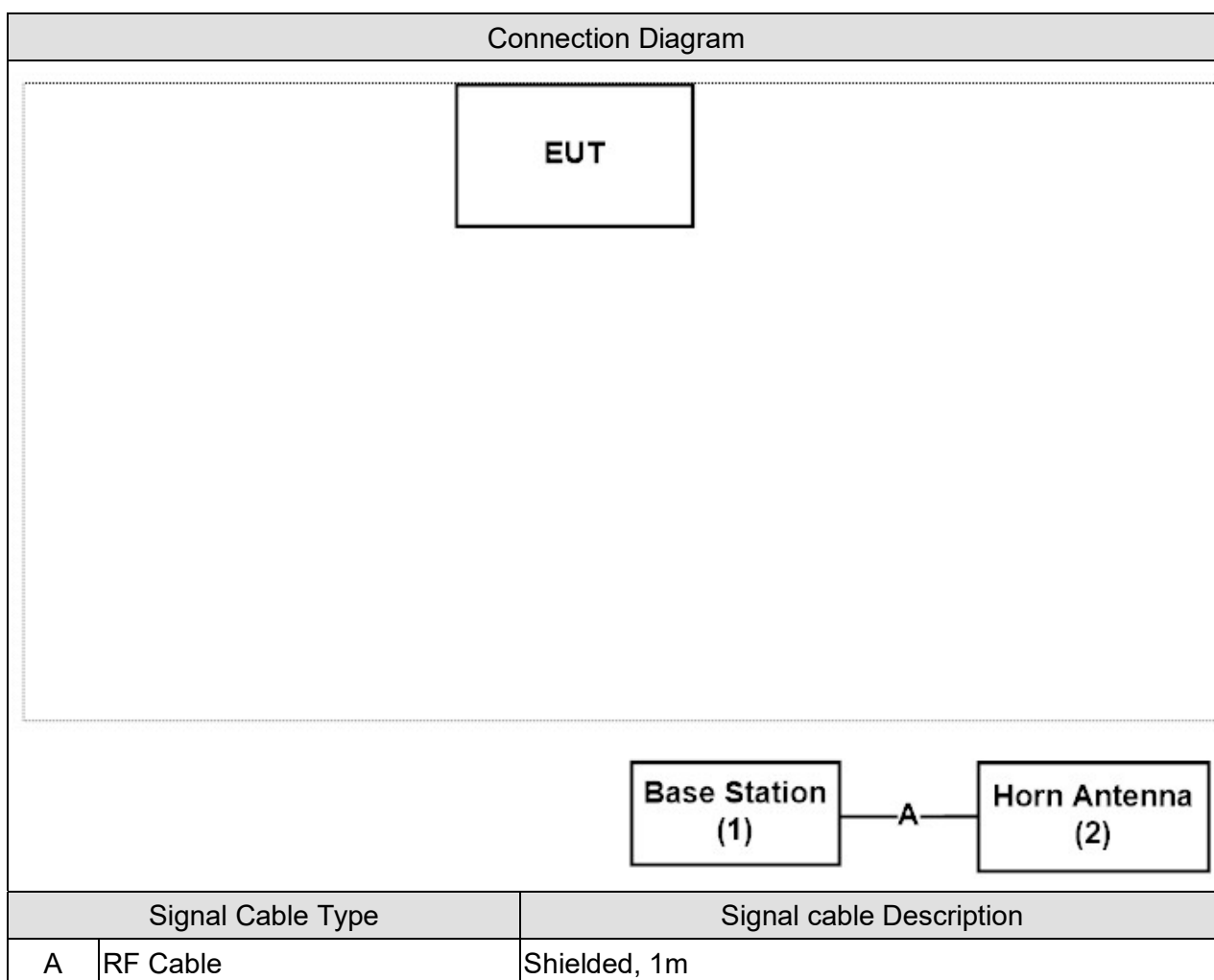
Test Mode
Mode 1: WCDMA_Band 2
Mode 2: WCDMA_Band 4
Mode 3: WCDMA_Band 5

1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Base Station	R&S	CMW500	106071	DoC	Non-Shielded, 2m.
2 Horn Antenna	scnwahzbeck	BBHA9120B	639	DoC	--

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment. Horn link with base station.
3	The EUT link with base station and it will continue receive the signal.
4	Repeat the above procedure.

2. Technical Test

2.1. Summary of Test Result

- ☒ No deviations from the test standards
☐ Deviations from the test standards as below description:

For WCDMA Band 2

(FCC Part 24 Subpart E)

Performed Item	FCC Rule	Limit	Result
Maximum Output Power	§2.1033 §2.1046 §24.232	< 2 Watts	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak To Average Ratio	§24.232(d)	$\leq$ 13dB	Pass
Conducted Band Edge	§27.238	< -13dBm	Pass
Spurious Emission	§2.1053 §24.238	< -13dBm	Pass
Frequency Stability	§2.1055 §24.235	< 2.5 ppm	Pass

For WCDMA Band 4
(FCC Part 27 Subpart M)

Performed Item	FCC Rule	Limit	Result
Maximum Output Power	FCC PART 2.1046 and PART 27.50(h)(2)	< 1 Watts EIRP	Pass
Occupied Bandwidth	FCC PART 2.1049 and PART 27.53(l)(6)	N/A	Pass
Peak To Average Ratio	§27.50(b)	≤ 13dB	Pass
Conducted Band Edge	FCC PART 2.1051 and PART 27.53(l)(4)(6)	< -13 dBm	Pass
Spurious Emission	FCC PART 2.1051 and PART 27.53(l)(4)(6)	< -25 dBm	Pass
Frequency Stability	FCC PART 2.1055(a)(l) and PART 27.54	< 2.5 ppm	Pass

For WCDMA Band 5
(FCC Part 22 Subpart H)

Performed Item	FCC Rule	Limit	Result
Maximum Output Power	§2.1033 §2.1046 §22.913	< 7 Watts	Pass
Occupied Bandwidth	§2.1049	N/A	Pass
Peak To Average Ratio	§22.913(d)	≤ 13dB	Pass
Conducted Band Edge	§22.917	< -13dBm	Pass
Spurious Emission	§2.1053 §22.917	< -13dBm	Pass
Frequency Stability	§2.1055 §22.335	< 2.5 ppm	Pass

2.2. Test Environment

Items	Test Item	Required (IEC 68-1)	Actual	Test Site
Temperature (°C)	RF Output Power	15-35	23	3
Humidity (%RH)		25-75	52	
Barometric pressure (mbar)		860-1060	950-1000	
Temperature (°C)	Occupied Bandwidth	15-35	23	3
Humidity (%RH)		25-75	52	
Barometric pressure (mbar)		860-1060	950-1000	
Temperature (°C)	Peak To Average Ratio	15-35	23	3
Humidity (%RH)		25-75	52	
Barometric pressure (mbar)		860-1060	950-1000	
Temperature (°C)	Conducted Band Edge	15-35	23	3
Humidity (%RH)		25-75	52	
Barometric pressure (mbar)		860-1060	950-1000	
Temperature (°C)	Spurious Emission	15-35	23	2/3
Humidity (%RH)		25-75	52	
Barometric pressure (mbar)		860-1060	950-1000	
Temperature (°C)	Frequency Stability	15-35	23	3
Humidity (%RH)		25-75	52	
Barometric pressure (mbar)		860-1060	950-1000	

Note: Test Site information refers to Laboratory Information.

Laboratory Information

USA : FCC Registration Number: TW3024

Canada : IC Registration Number: 22397-1 / 22397-2 / 22397-3

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site :

<http://www.dekra.com.tw/english/about/certificates.aspx?bval=5>

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site : http://www.dekra.com.tw/index_en.aspx

If you have any comments, please don't hesitate to contact us. Our test sites as below:

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2.3. List of Test Equipment

RF Output Power / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Peak To Average Ratio / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Conducted Band Edge / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Conducted Spurious Emissions / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

Radiated Spurious Emissions / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2018/06/01	2019/05/31
Bilog Antenna	Teseq	CBL6112D	23191	2018/06/26	2019/06/25
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Signal Analyzer	R&S	FSVA40	101455	2018/11/05	2019/11/04
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/01/16	2020/01/15
Pre-Amplifier	Dekra	AP-400C	201801231	2018/12/05	2019/12/04
Pre-Amplifier	EMCI	EMC11830I	980366	2018/12/21	2019/12/20
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2018/10/17	2019/10/16
Pre-Amplifier	Dekra	AP-025C	201801236	2019/02/18	2020/02/17
Signal Analyzer	R&S	FSV40	101435	2018/07/19	2019/07/18
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Coaxial Cable	Huber+Suhner	SF104_SF104_SF104_SF104(16.0m)	CB2-H	2018/08/21	2019/08/20

Frequency Stability / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/12/21	2019/12/20
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2019/03/15	2020/03/14
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Wireless Conn. Tseter	R&S	CMW500	157118	2018/08/16	2019/08/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2019/01/16	2020/01/15

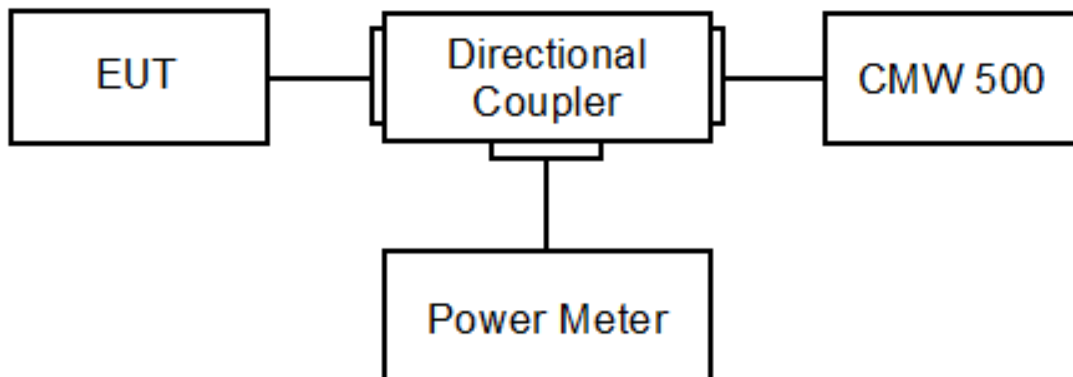
Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.4. Measurement Uncertainty

Test Item	Uncertainty
RF Output Power	$\pm 1.27\text{dB}$
Occupied Bandwidth	$\pm 10\text{ Hz}$
Peak To Average Ratio	In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13dB.
Conducted Band Edge	$\pm 1.2\text{ dB}$
Spurious Emissions	The measurement uncertainty is defined as $\pm 1.27\text{ dB}$ for Conducted Measurement. The measurement uncertainty is defined as $\pm 3.2\text{ dB}$ for Radiated Measurement.
Frequency Stability	$\pm 10\text{ Hz}$

3. RF Output Power

3.1. Test Setup



3.2. Test Procedure

- The RF output of the transmitter was connected to base station simulator.
- The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- Set EUT at maximum average power by base station simulator.
- Measure lowest, middle, and highest channels for each bandwidth and different modulation.

Effective Isotropic Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi)

Effective Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi) - 2.15dB

3.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.2.4

ANSI C63.26-2015 Sub-clause 5.2.4.2

3.4. Test Result

Product	Module		
Test Item	RF Output Power (Conducted)		
Test Mode	Mode 1: WCDMA_Band 2		
Date of Test	2019/04/02	Test Site	SR10-H

Test Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	Measure Level (dBm)	Measure Level (W)	Limit (W) EIRP
RMC	1852.4	23.15	3.5	26.650	0.462	2
	1880.0	23.01	3.5	26.510	0.448	2
	1907.6	22.86	3.5	26.360	0.433	2
HSUPA	1852.4	20.92	3.5	24.420	0.277	2
	1880.0	20.87	3.5	24.370	0.274	2
	1907.6	20.58	3.5	24.080	0.256	2
HSDPA	1852.4	20.38	3.5	23.880	0.244	2
	1880.0	20.32	3.5	23.820	0.241	2
	1907.6	20.26	3.5	23.760	0.238	2
Voice	1852.4	22.65	3.5	26.150	0.412	2
	1880.0	22.68	3.5	26.180	0.415	2
	1907.6	22.76	3.5	26.260	0.423	2

Note: Measure Level (EIRP) = Reading Level + Antenna Gain

Product	Module		
Test Item	RF Output Power (Conducted)		
Test Mode	Mode 2: WCDMA_Band 4		
Date of Test	2019/04/02	Test Site	SR10-H

Test Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	Measure Level (dBm)	Measure Level (W)	Limit (W) EIRP
RMC	1712.4	23.03	3.5	26.530	0.450	1
	1732.6	23.05	3.5	26.550	0.452	1
	1752.6	23.01	3.5	26.510	0.448	1
HSUPA	1712.4	20.63	3.5	24.130	0.259	1
	1732.6	21.06	3.5	24.560	0.286	1
	1752.6	20.71	3.5	24.210	0.264	1
HSDPA	1712.4	20.42	3.5	23.920	0.247	1
	1732.6	20.37	3.5	23.870	0.244	1
	1752.6	20.32	3.5	23.820	0.241	1
Voice	1712.4	22.95	3.5	26.450	0.442	1
	1732.6	22.94	3.5	26.440	0.441	1
	1752.6	22.87	3.5	26.370	0.434	1

Note: Measure Level (EIRP) = Reading Level + Antenna Gain

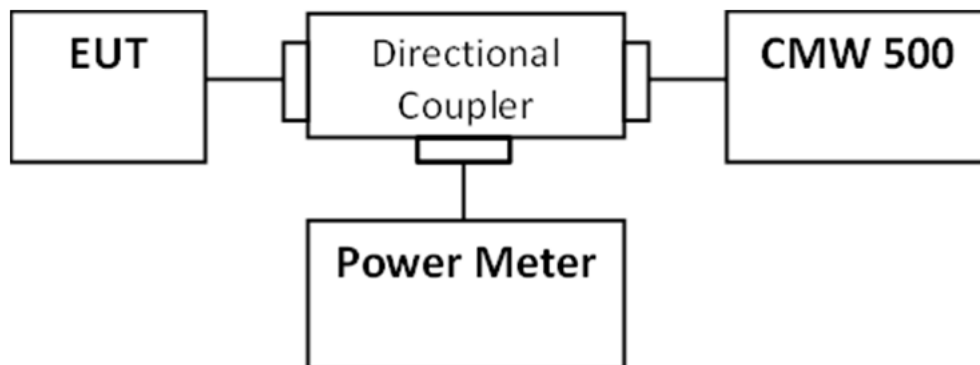
Product	Module		
Test Item	RF Output Power (Conducted)		
Test Mode	Mode 3: WCDMA_Band 5		
Date of Test	2019/04/02	Test Site	SR10-H

Test Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	Measure Level (dBm)	Measure Level (W)	Limit (W) ERP
RMC	826.4	23.37	1.5	22.720	0.187	7
	836.6	23.31	1.5	22.660	0.185	7
	846.6	23.29	1.5	22.640	0.184	7
HSUPA	826.4	21.32	1.5	20.670	0.117	7
	836.6	21.42	1.5	20.770	0.119	7
	846.6	21.37	1.5	20.720	0.118	7
HSDPA	826.4	20.92	1.5	20.270	0.106	7
	836.6	21.04	1.5	20.390	0.109	7
	846.6	20.94	1.5	20.290	0.107	7
Voice	826.4	23.21	1.5	22.560	0.180	7
	836.6	23.22	1.5	22.570	0.181	7
	846.6	23.20	1.5	22.550	0.180	7

Note: Measure Level (EIRP) = Reading Level + Antenna Gain - 2.15

4. Occupied Bandwidth

4.1. Test Setup



4.2. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The 26 dB bandwidth and 99% occupied bandwidth of the low & middle & high channel for the highest RF powers were measured.

4.3. Test Method

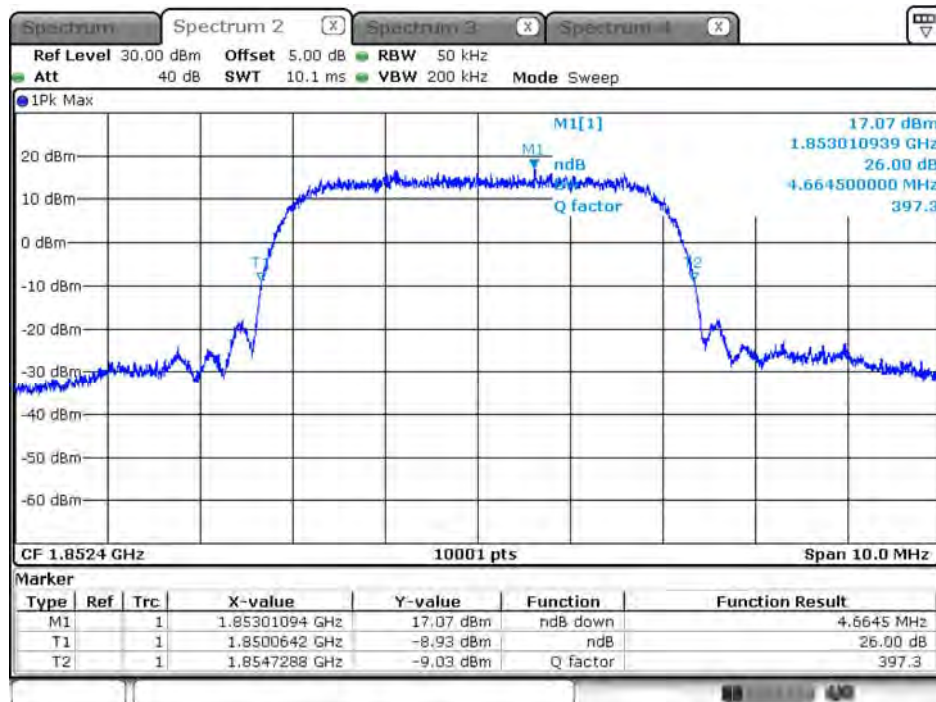
KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 4.2 & 4.3
ANSI C63.26-2015 Sub-clause 5.4.3 & 5.4.4

4.4. Test Result

Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: WCDMA_Band 2		
Date of Test	2019/04/16	Test Site	SR10-H

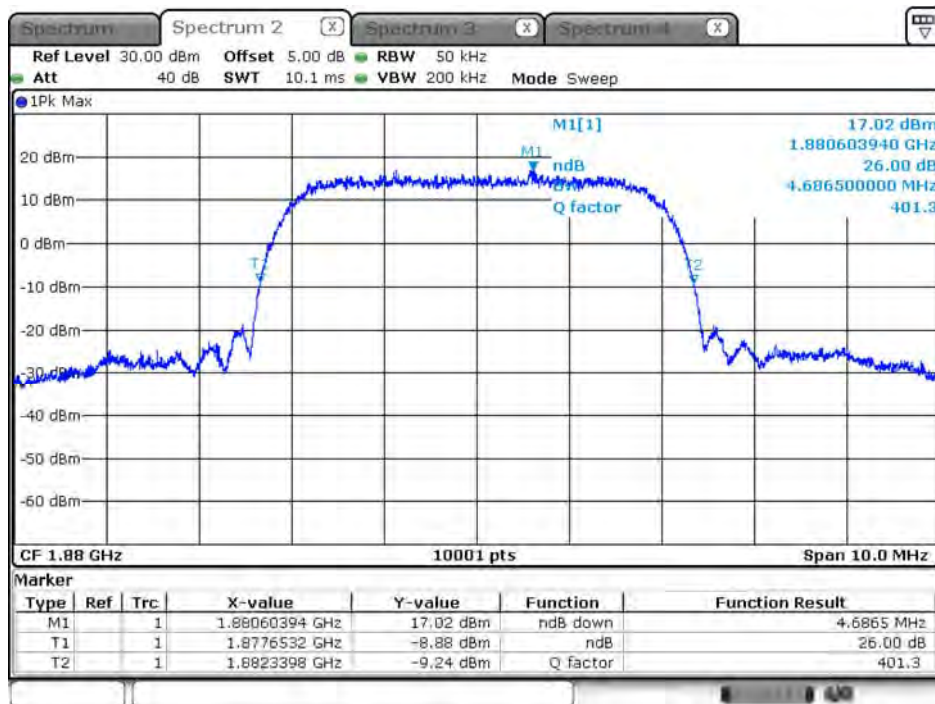
WCDMA_Band 2_RMC			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
1852.4	4.664	4.132	N/A
1880	4.686	4.119	N/A
1907.6	4.680	4.131	N/A

WCDMA_Band 2_RMC_1852.4MHz_26dB BW



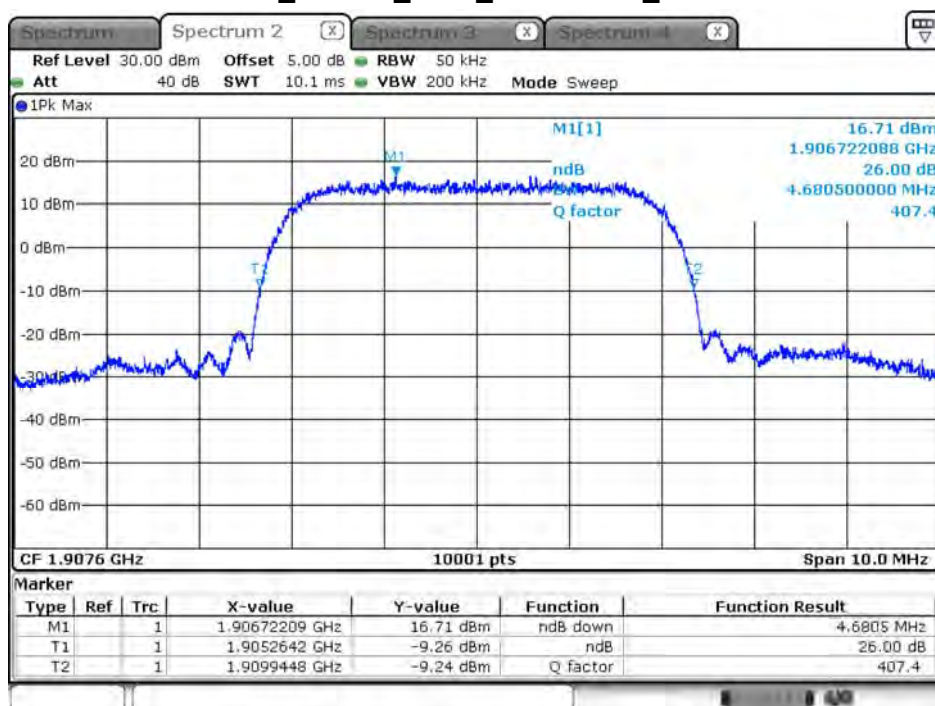
Date: 2.APR 2019 19:29:51

WCDMA_Band 2_RMC_1880.0MHz_26dB BW

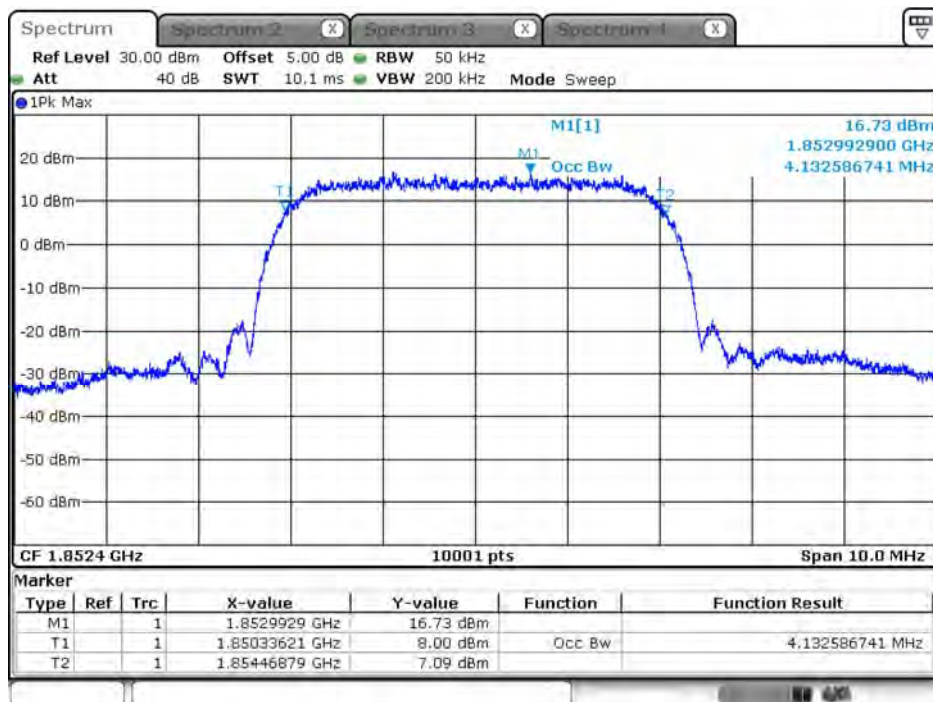


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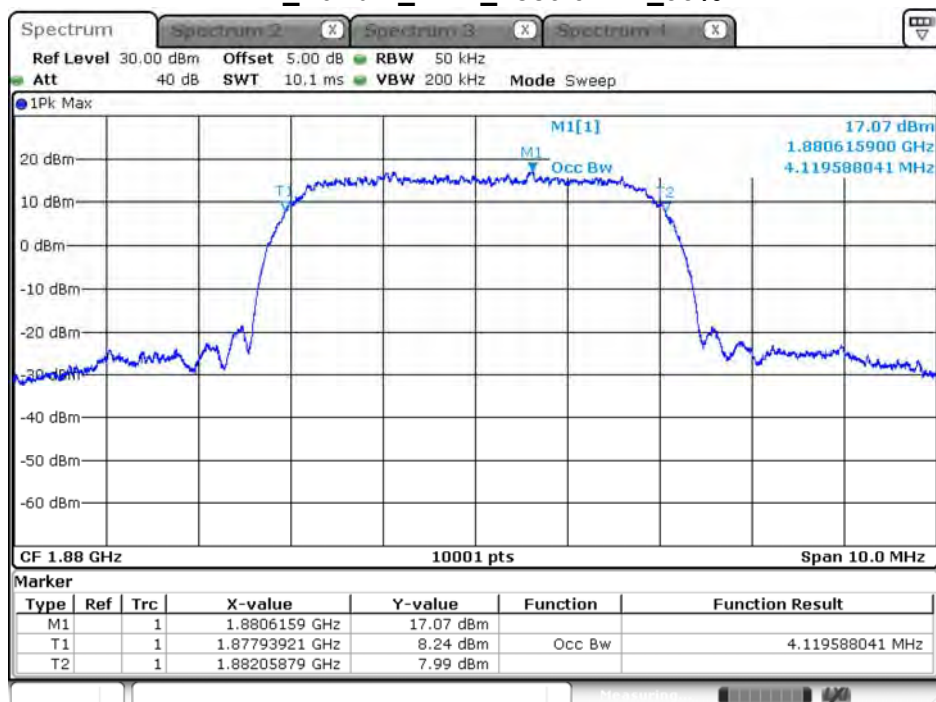
WCDMA_Band 2_RMC_1907.6MHz_26dB BW



Date: 2.APR.2019 19:36:05

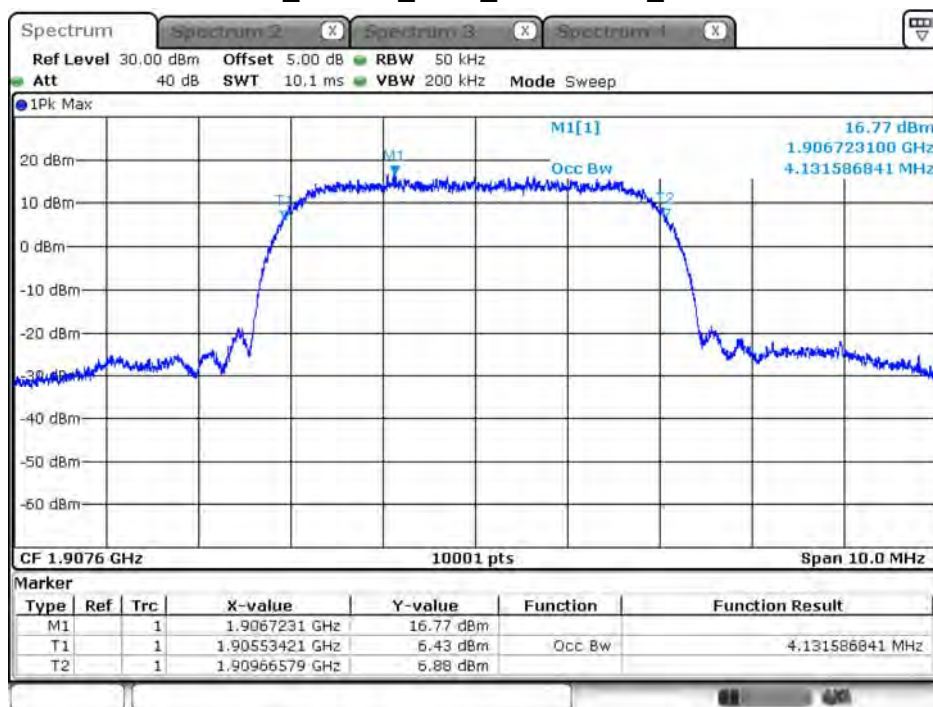
WCDMA_Band 2_RMC_1852.4MHz_99% BW

Date: 2.APR.2019 19:29:19

WCDMA_Band 2_RMC_1880.0MHz_99% BW

Date: 2.APR.2019 19:34:11

WCDMA_Band 2_RMC_1907.6MHz_99% BW

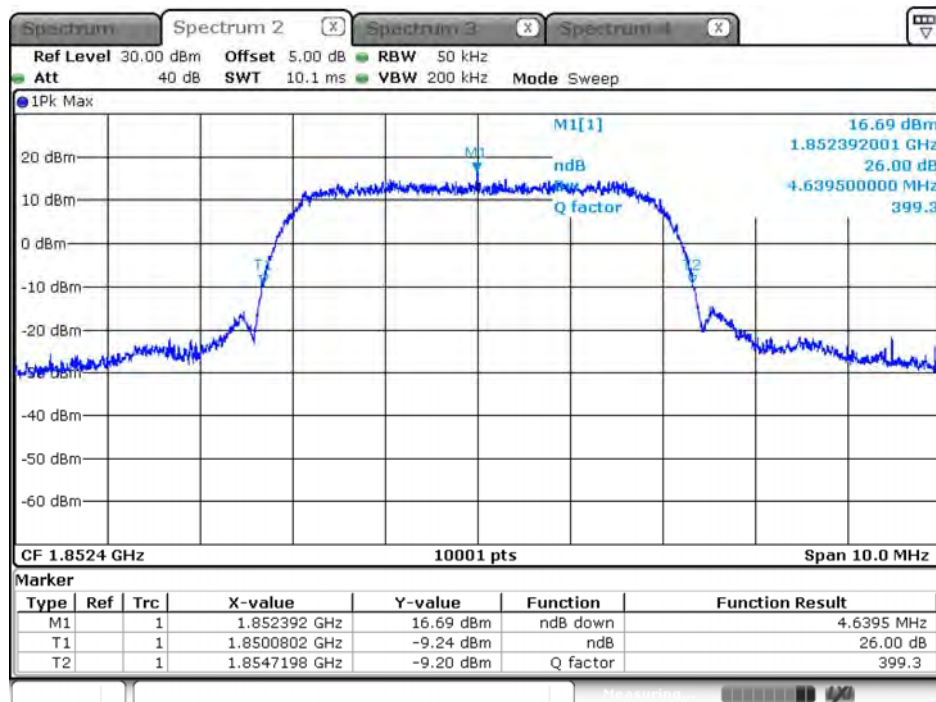


Date: 2 APR 2019 19:37:40

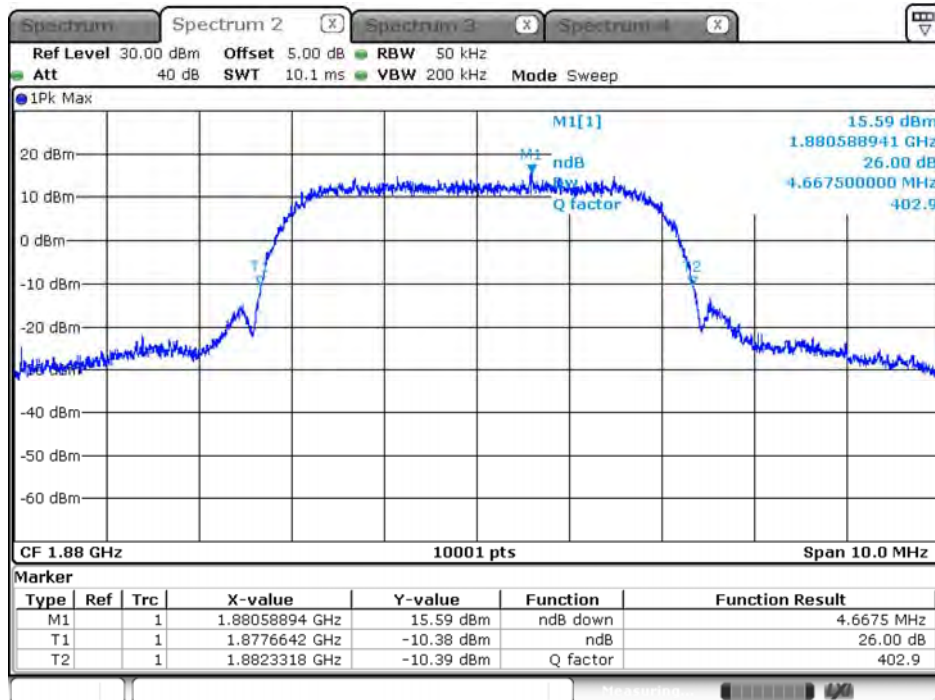
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: WCDMA_Band 2		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 2_HSDPA			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
1852.4	4.639	4.133	N/A
1880	4.667	4.136	N/A
1907.6	4.671	4.135	N/A

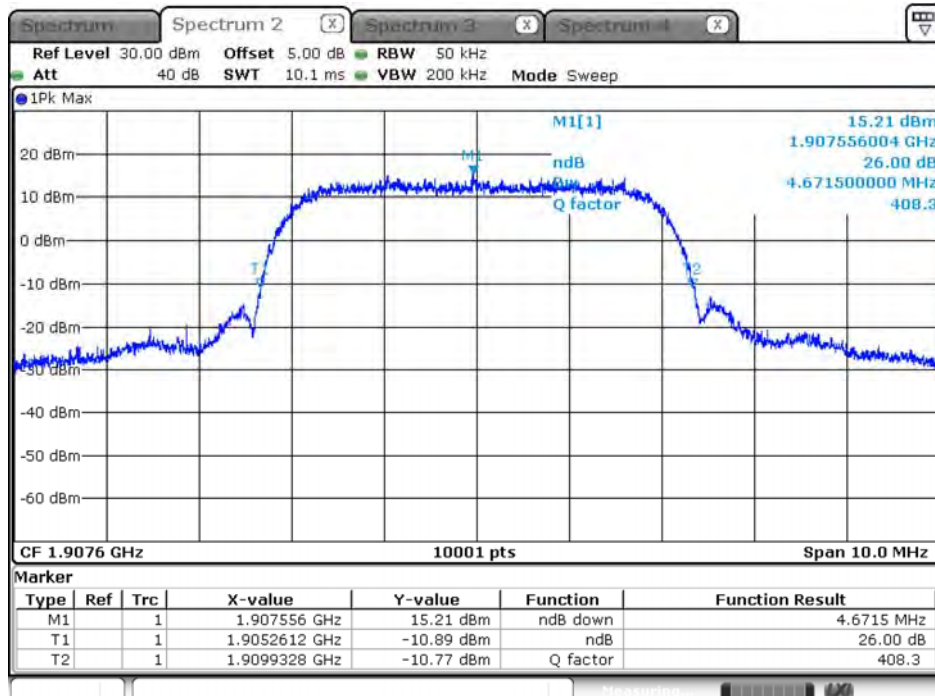
WCDMA_Band 2_HSDPA_1852.4MHz_26dB BW



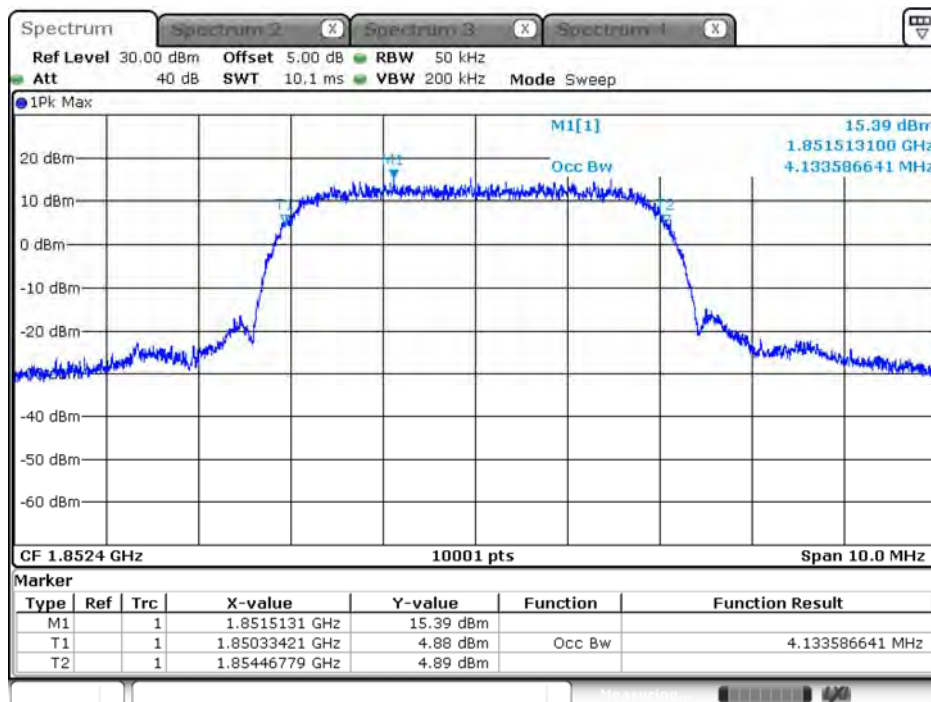
Date: 2.APR.2019 20:29:31

WCDMA_Band 2_HSDPA_1880.0MHz_26dB BW

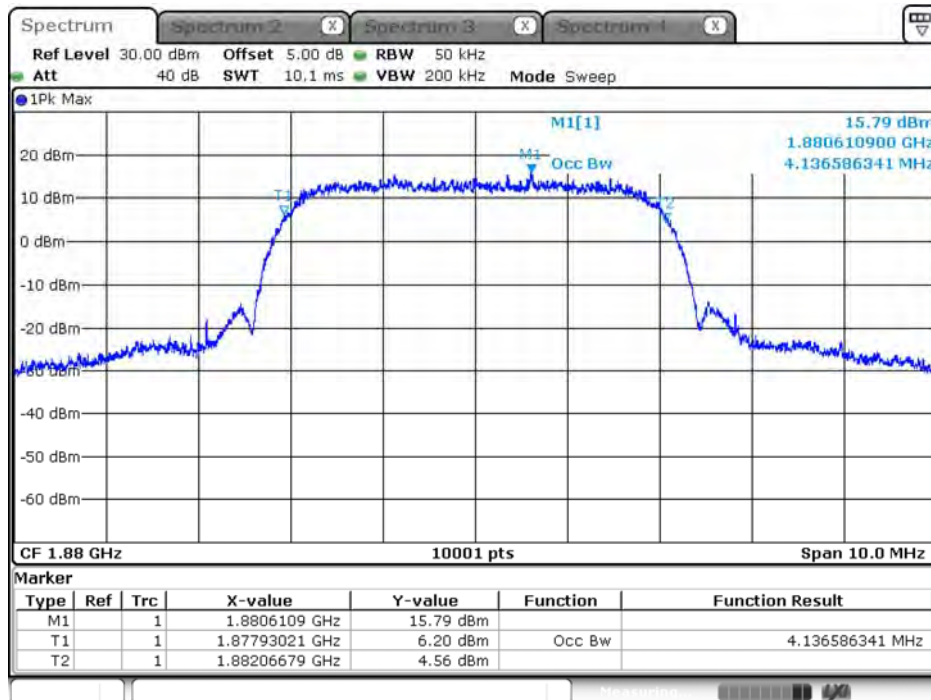
Date: 2.APR.2019 20:27:42

WCDMA_Band 2_HSDPA_1907.6MHz_26dB BW

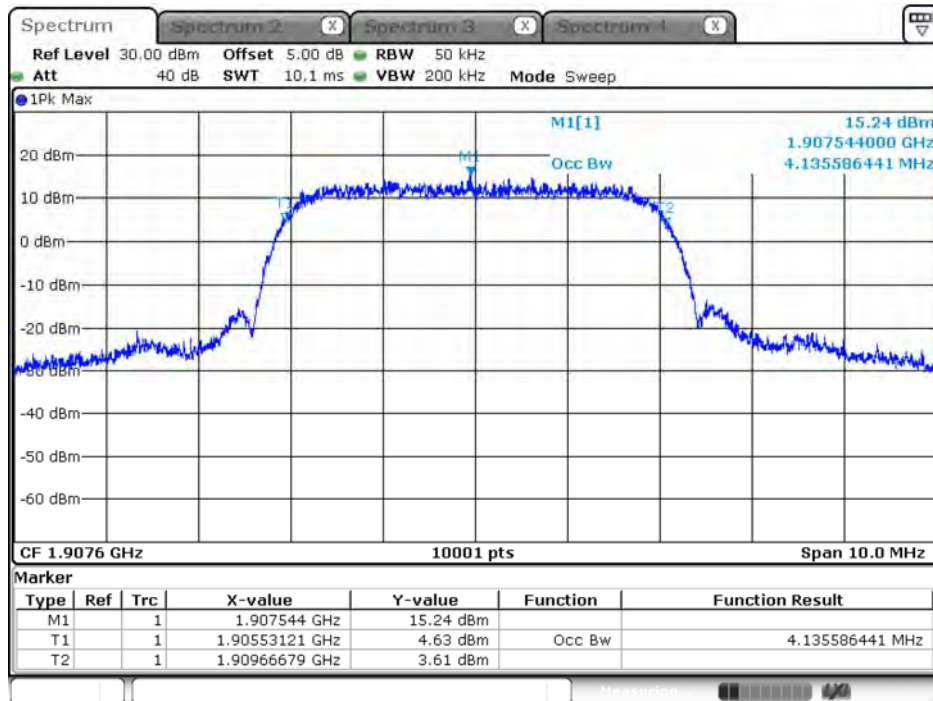
Date: 2.APR.2019 20:26:12

WCDMA_Band 2_HSDPA_1852.4MHz_99% BW

Date: 2.APR.2019 20:28:30

WCDMA_Band 2_HSDPA_1880.0MHz_99% BW

Date: 2.APR.2019 20:27:20

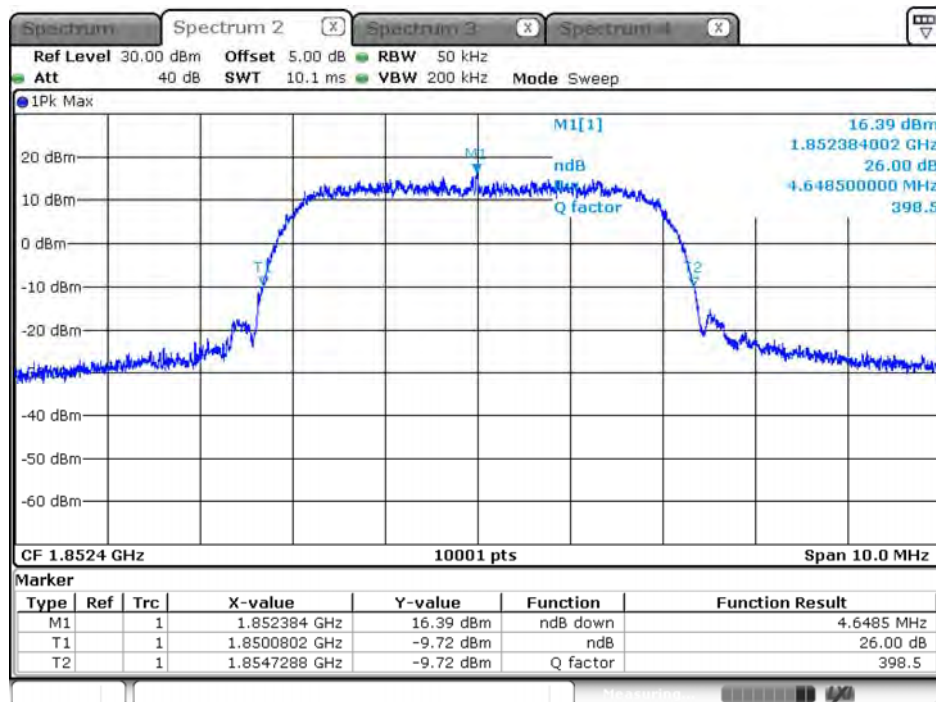
WCDMA_Band 2_HSDPA_1907.6MHz_99% BW

Date: 2.APR.2019 20:25:40

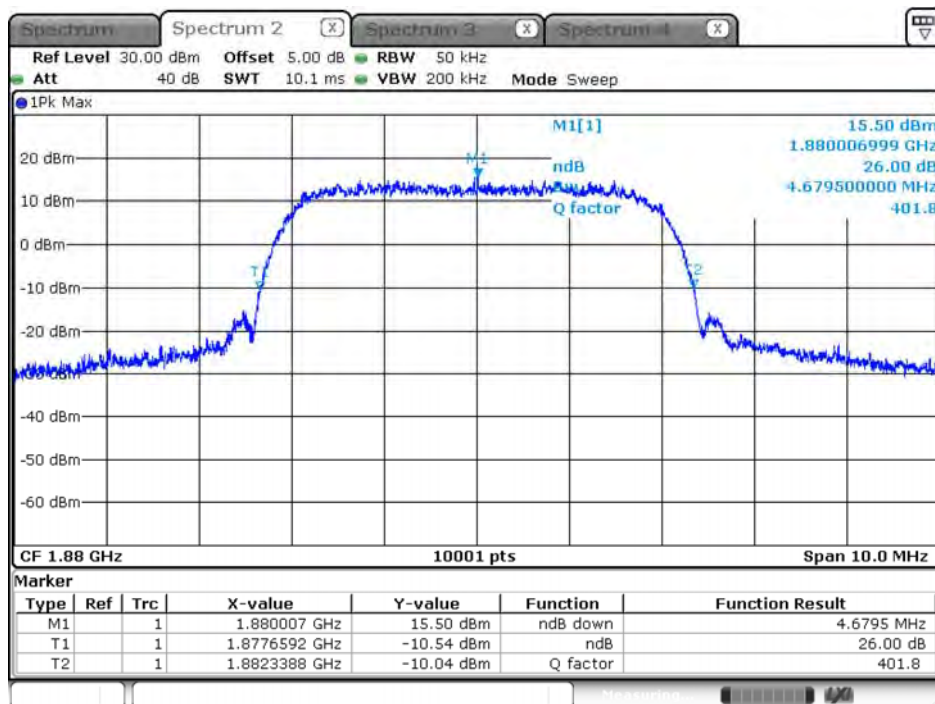
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: WCDMA_Band 2		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 2_HSUPA			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
1852.4	4.648	4.135	N/A
1880	4.679	4.124	N/A
1907.6	4.674	4.130	N/A

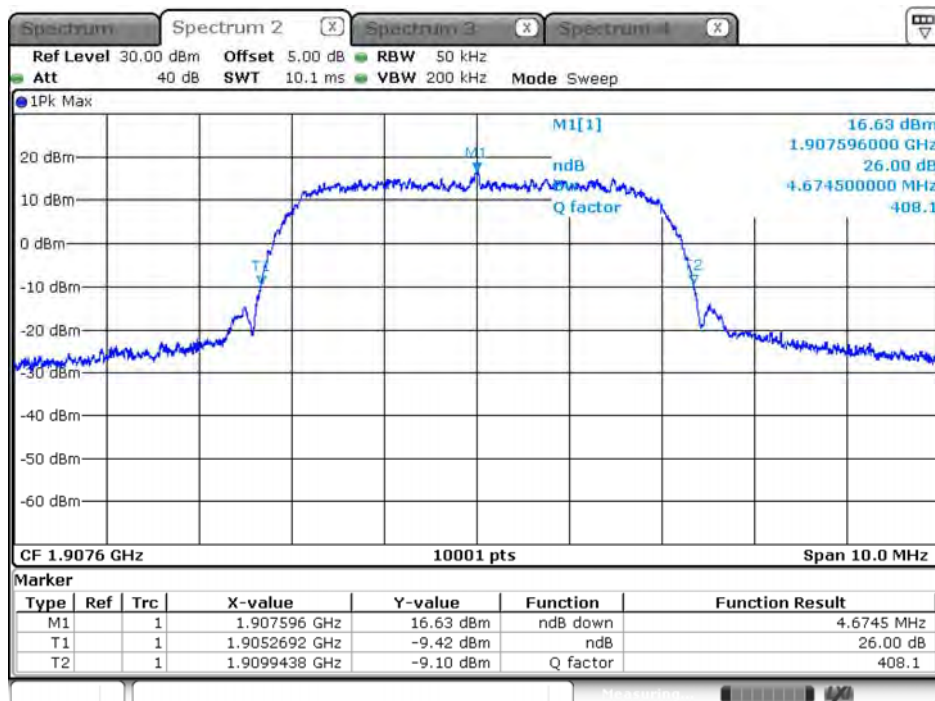
WCDMA_Band 2_HSUPA_1852.4MHz_26dB BW



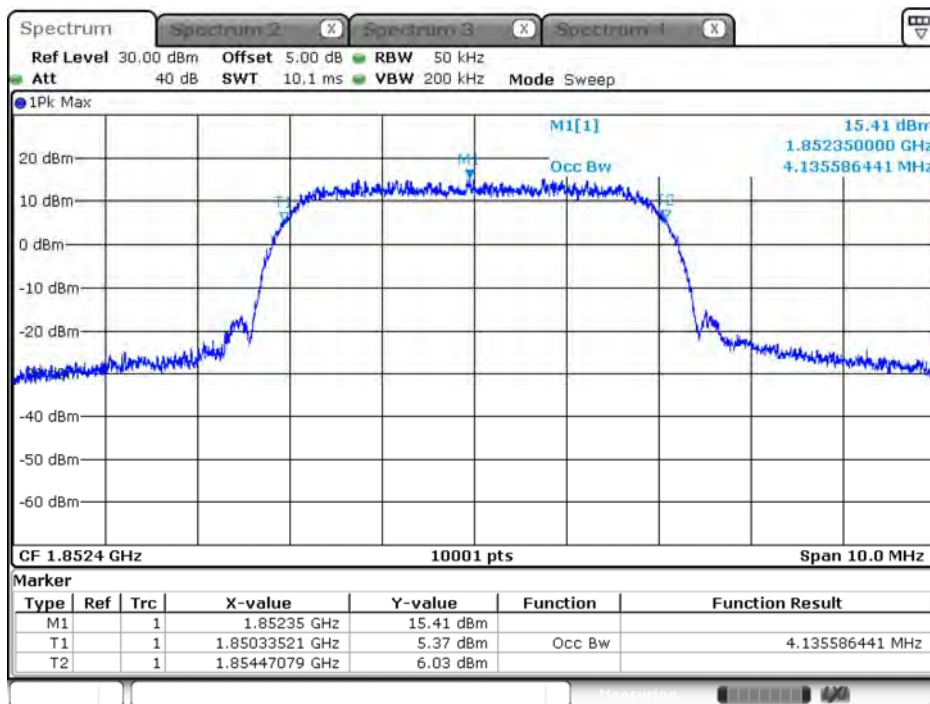
Date: 2.APR.2019 20:31:22

WCDMA_Band 2_HSUPA_1880.0MHz_26dB BW

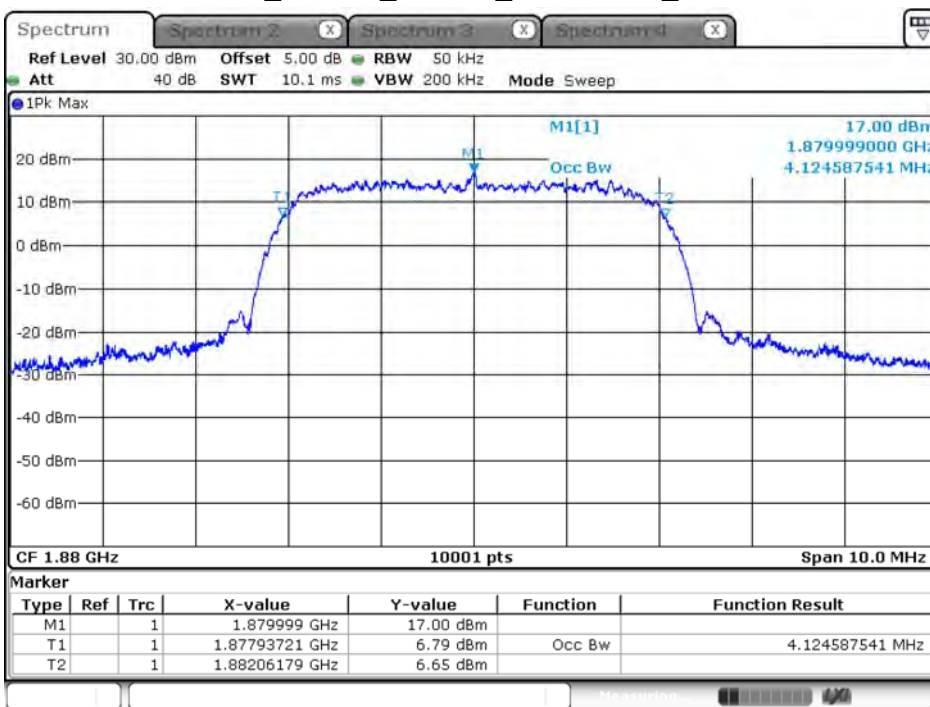
Date: 2.APR.2019 20:37:47

WCDMA_Band 2_HSUPA_1907.6MHz_26dB BW

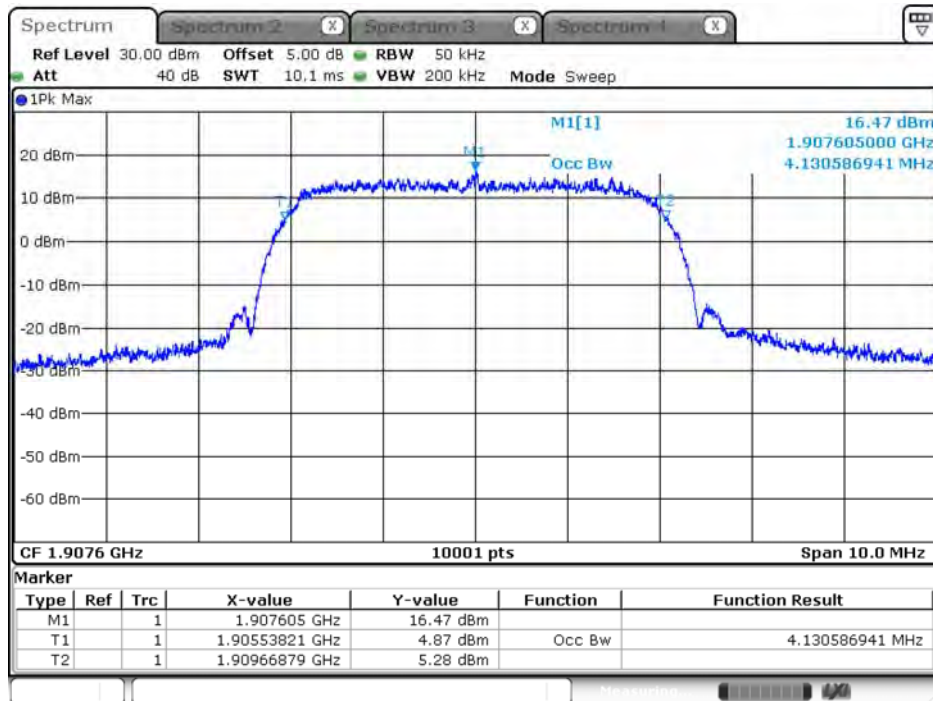
Date: 2.APR.2019 20:41:54

WCDMA_Band 2_HSUPA_1852.4MHz_99% BW

Date: 2.APR.2019 20:30:47

WCDMA_Band 2_HSUPA_1880.0MHz_99% BW

Date: 2.APR.2019 20:37:17

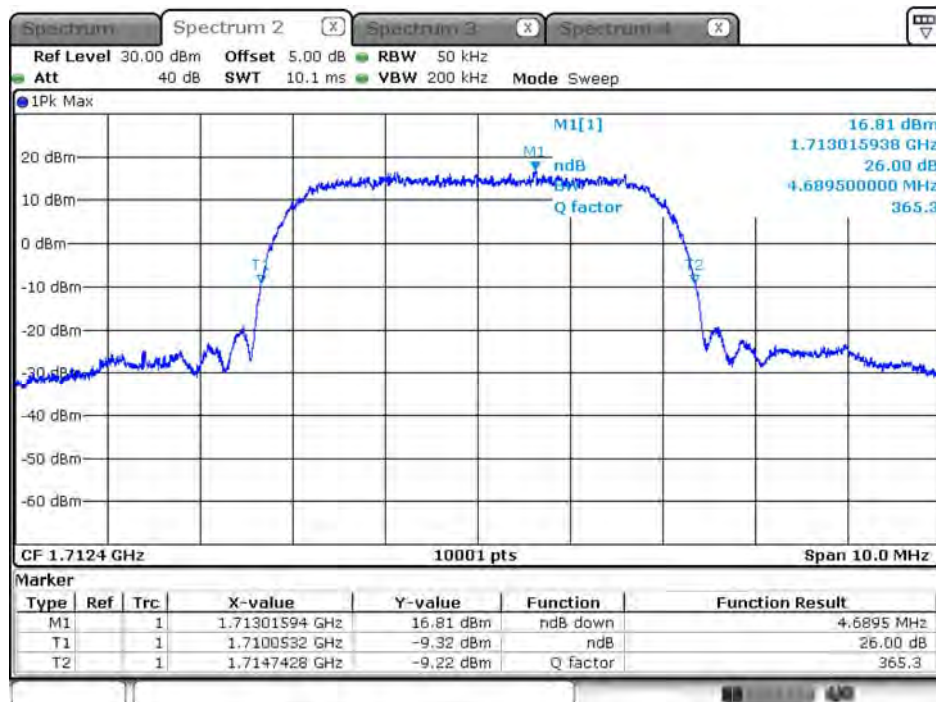
WCDMA_Band 2_HSUPA_1907.6MHz_99% BW

Date: 2.APR.2019 20:39:09

Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: WCDMA_Band 4		
Date of Test	2019/04/16	Test Site	SR10-H

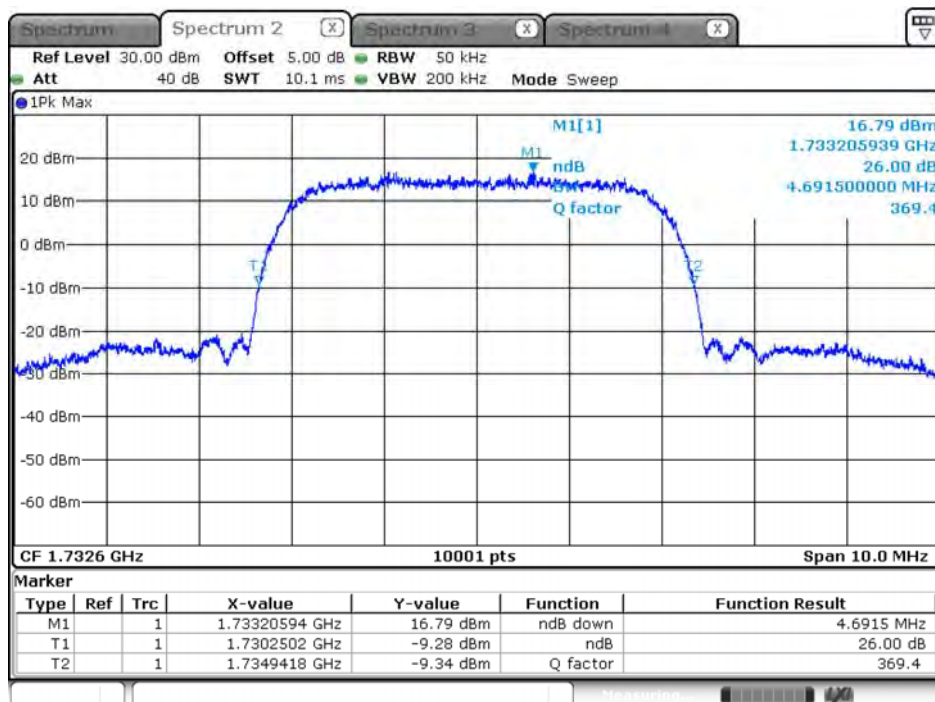
WCDMA_Band 4_RMC			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
1712.4	4.689	4.128	N/A
1732.6	4.691	4.127	N/A
1752.6	4.683	4.121	N/A

WCDMA_Band 4_RMC_1712.4MHz_26dB BW



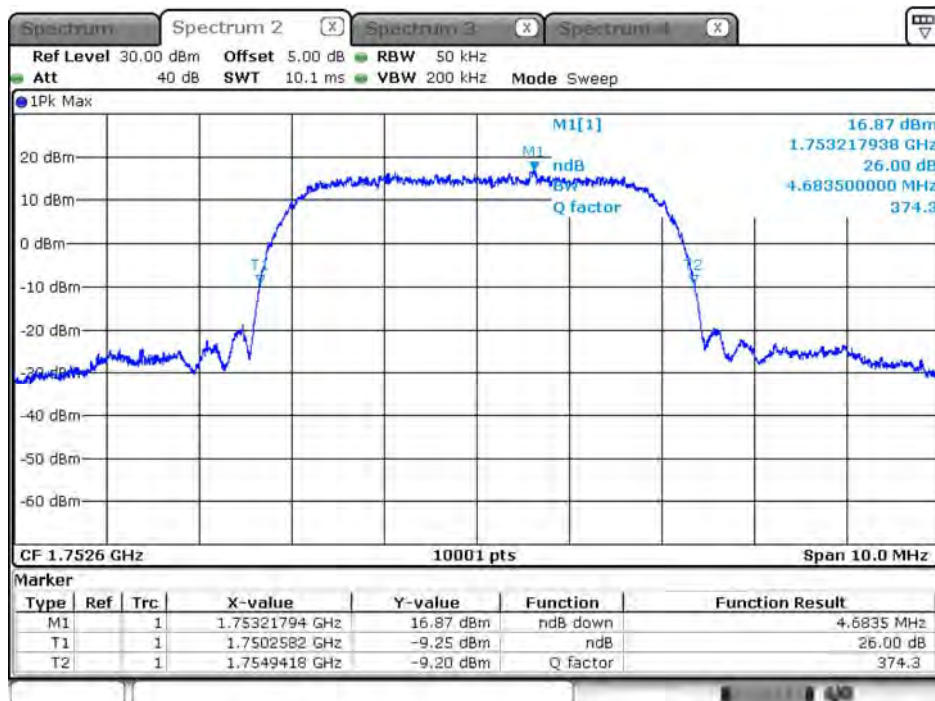
Date: 2.APR 2019 19:42:35

WCDMA_Band 4_RMC_1732.6MHz_26dB BW

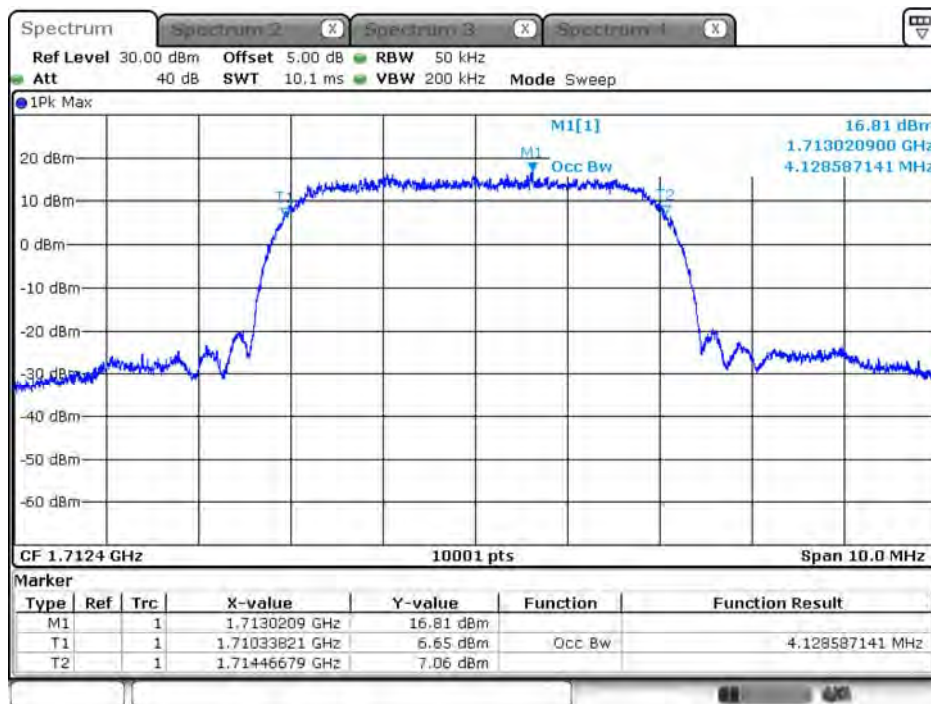


Date: 2.APR.2019 19:43:25

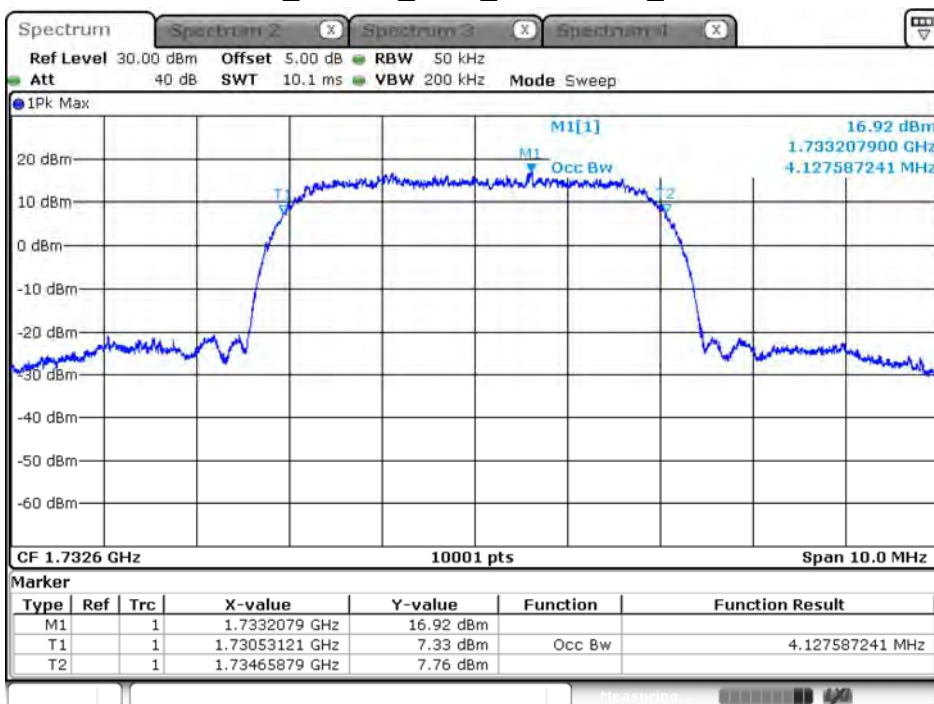
WCDMA_Band 4_RMC_1752.6MHz_26dB BW



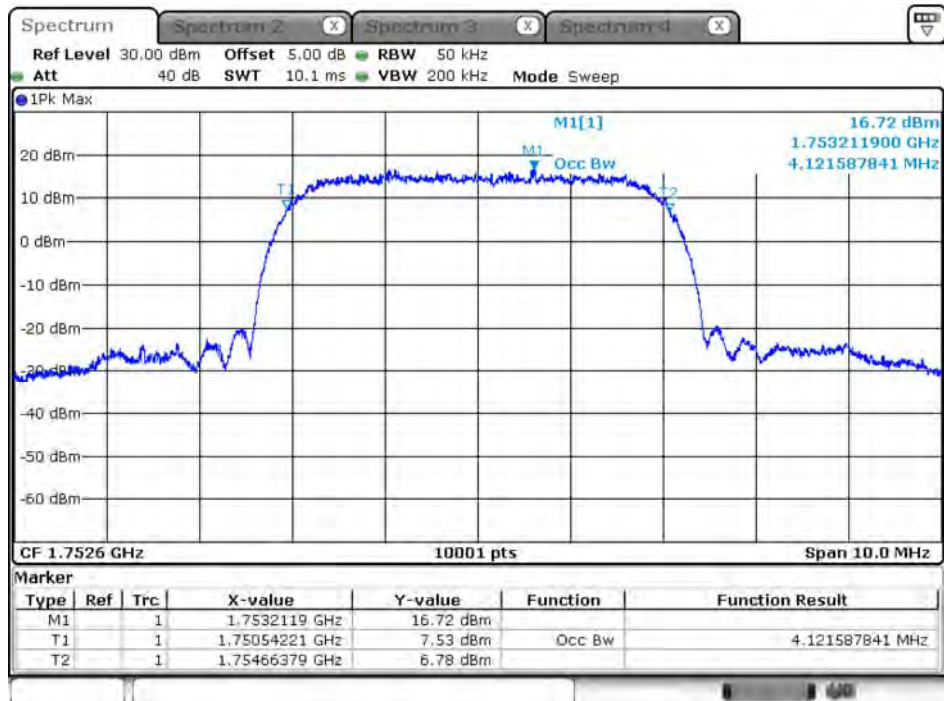
Date: 2.APR.2019 19:51:57

WCDMA_Band 4_RMC_1712.4MHz_99% BW

Date: 2.APR.2019 19:40:56

WCDMA_Band 4_RMC_1732.6MHz_99% BW

Date: 2.APR.2019 19:45:27

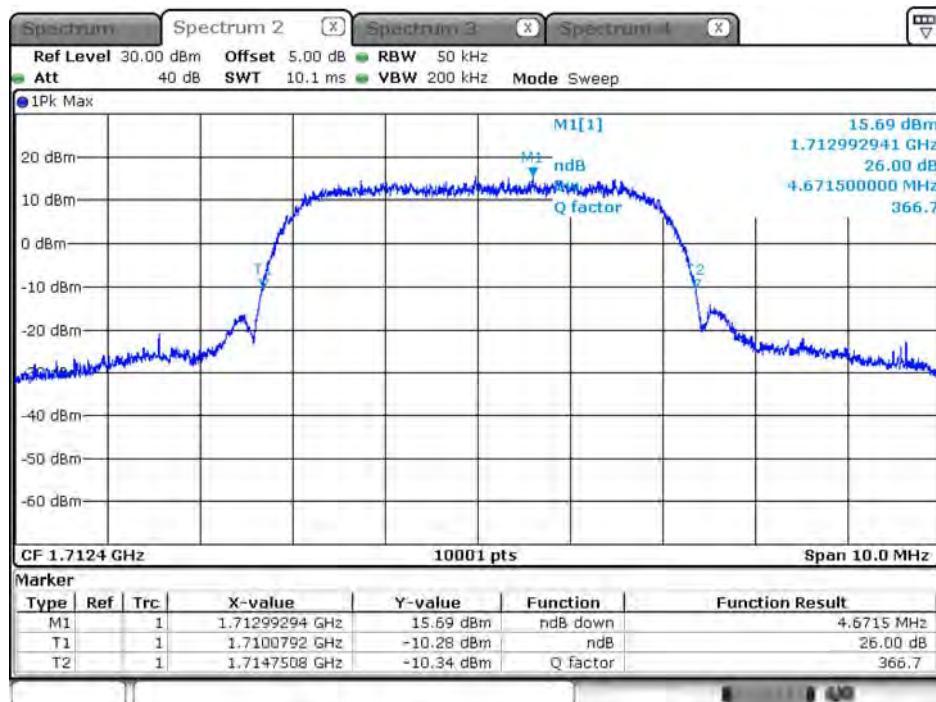
WCDMA_Band 4_RMC_1752.6MHz_99% BW

Date: 2.APR.2019 19:50:38

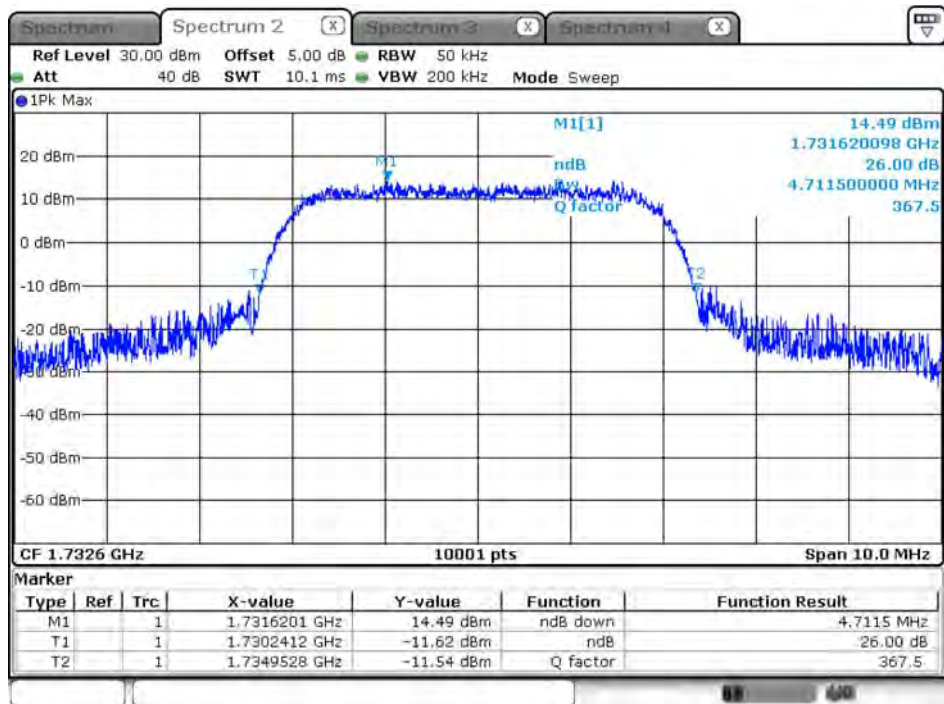
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: WCDMA_Band 4		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 4_ HSDPA			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
1712.4	4.671	4.135	N/A
1732.6	4.711	4.147	N/A
1752.6	4.661	4.128	N/A

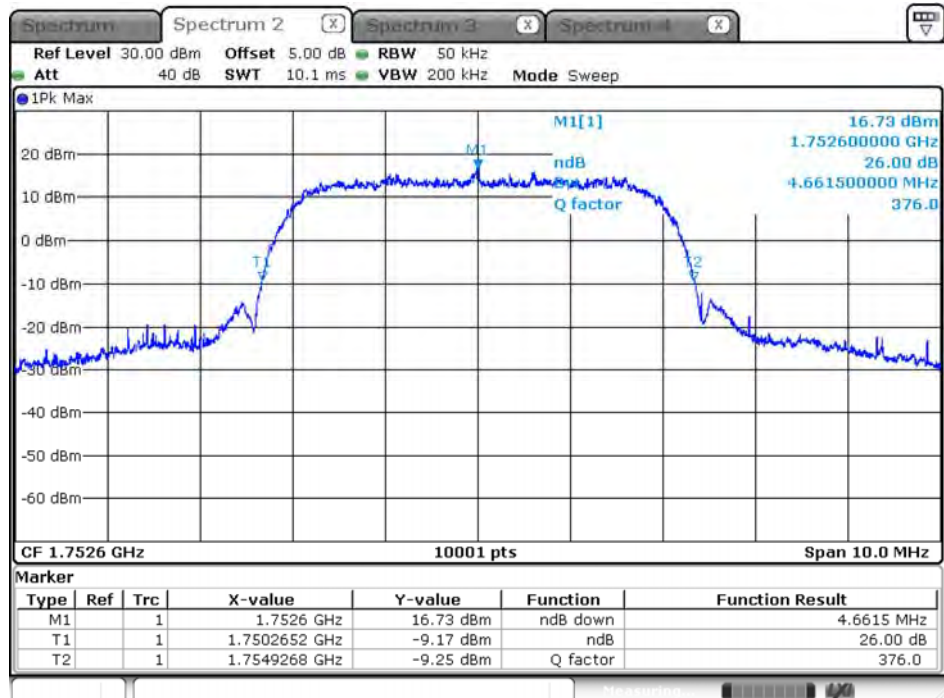
WCDMA_Band 4_HSDPA_1712.4MHz_26dB BW



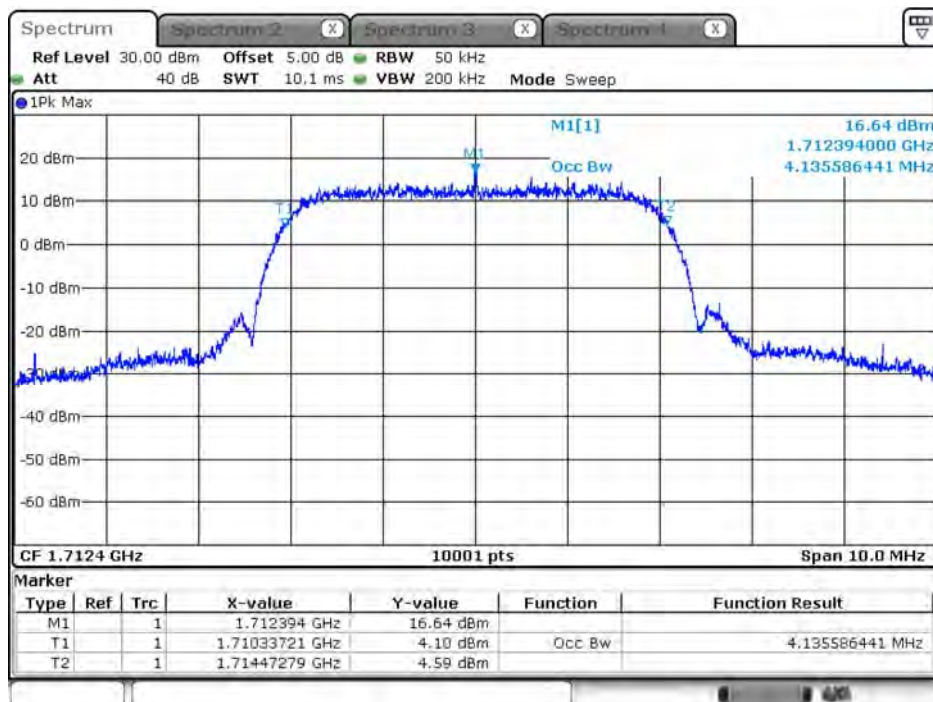
Date: 2.APR 2019 20:24:54

WCDMA_Band 4_HSDPA_1732.6MHz_26dB BW

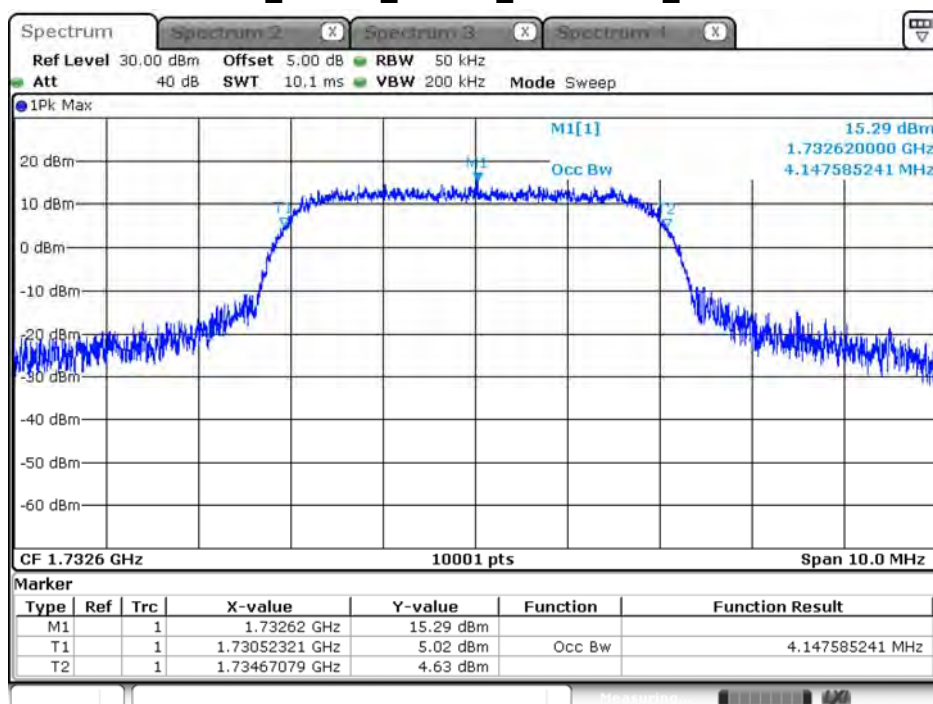
Date: 2.APR.2019 20:22:51

WCDMA_Band 4_HSDPA_1752.6MHz_26dB BW

Date: 2.APR.2019 20:18:26

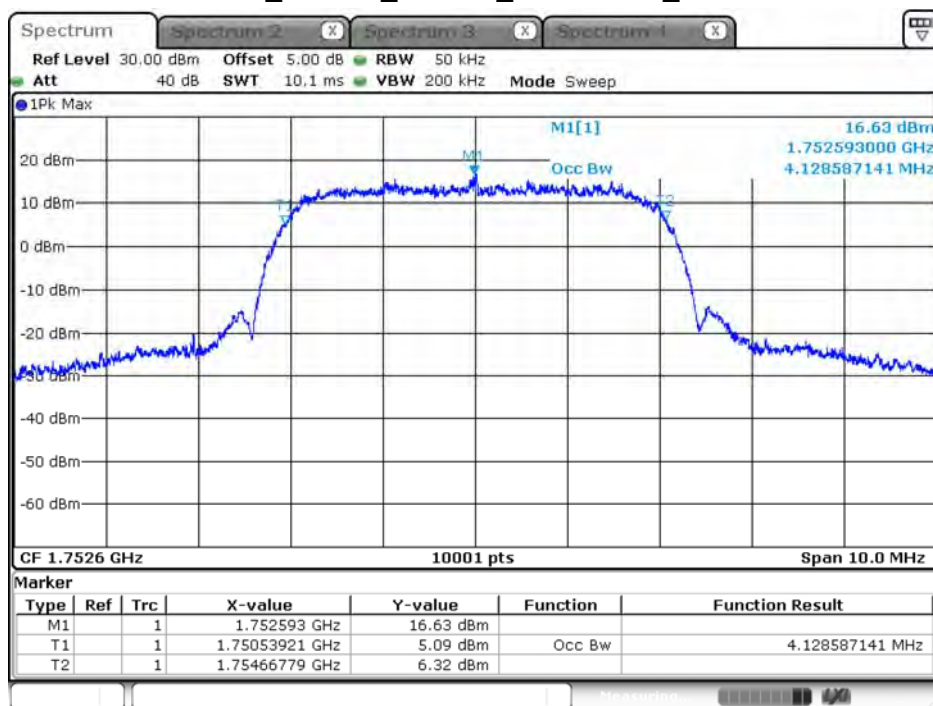
WCDMA_Band 4_HSDPA_1712.4MHz_99% BW

Date: 2.APR.2019 20:24:06

WCDMA_Band 4_HSDPA_1732.6MHz_99% BW

Date: 2.APR.2019 20:22:24

WCDMA_Band 4_HSDPA_1752.6MHz_99% BW

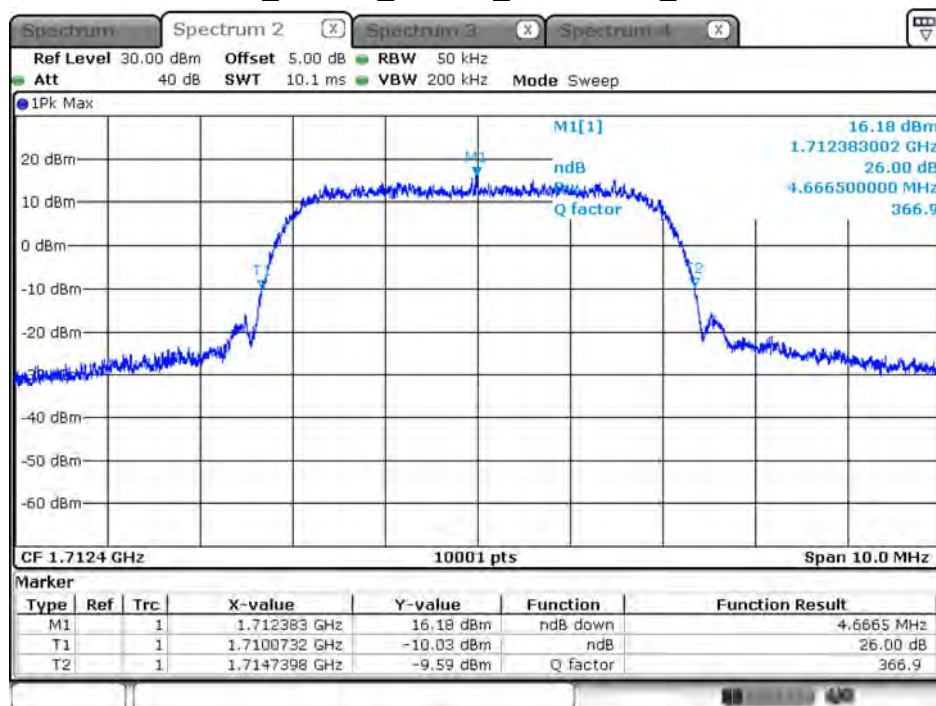


Date: 2.APR.2019 20:15:21

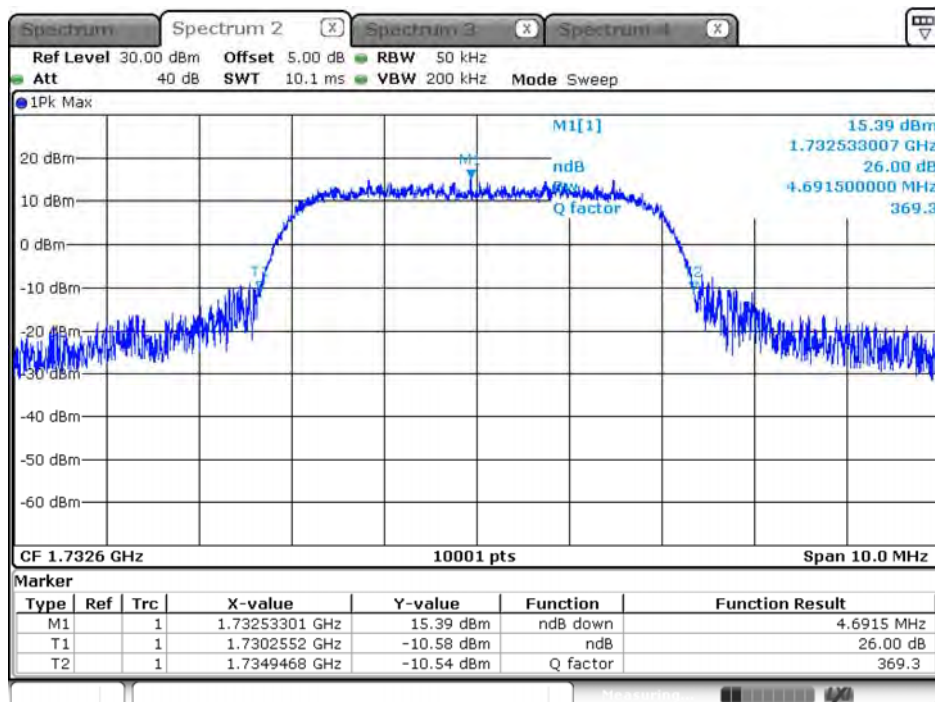
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: WCDMA_Band 4		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 4_HSUPA			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
1712.4	4.666	4.132	N/A
1732.6	4.691	4.160	N/A
1752.6	4.663	4.122	N/A

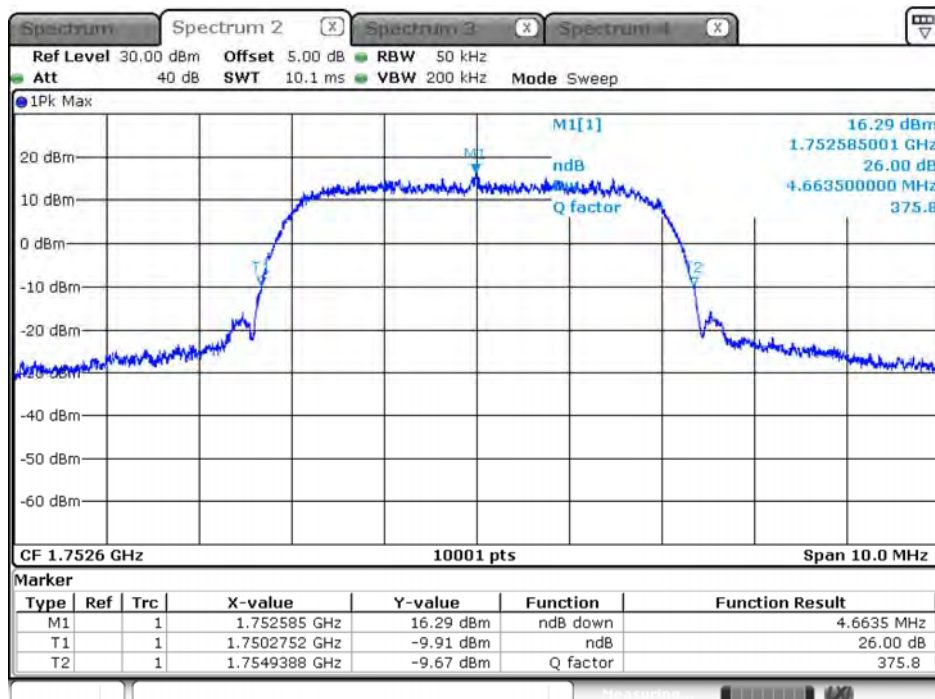
WCDMA_Band 4_HSUPA_1712.4MHz_26dB BW



Date: 2.APR 2019 20:43:30

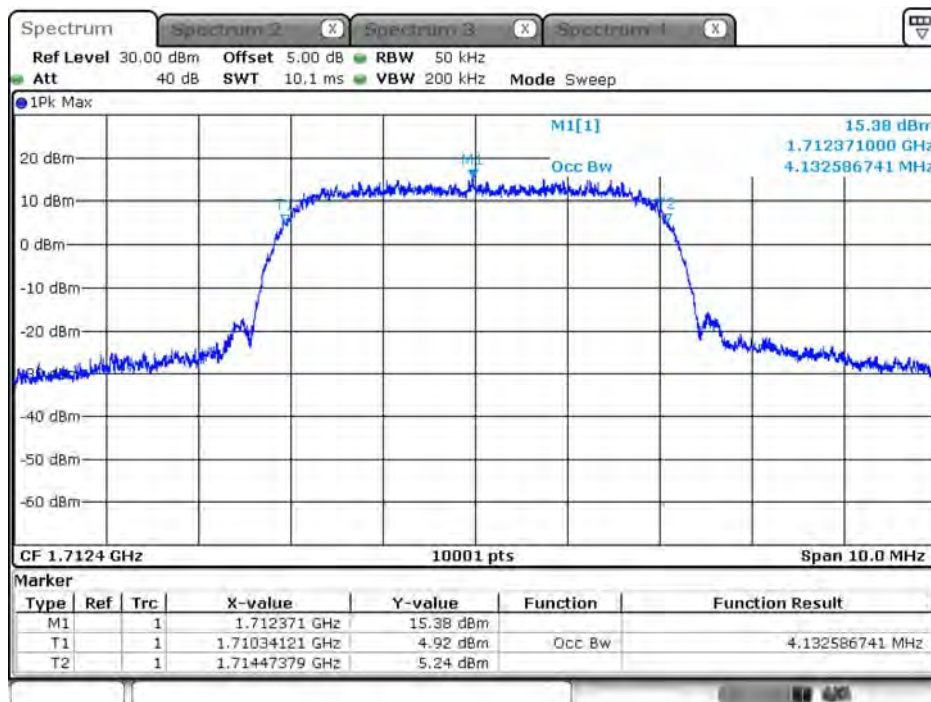
WCDMA_Band 4_HSUPA_1732.6MHz_26dB BW

Date: 2.APR.2019 20:47:12

WCDMA_Band 4_HSUPA_1752.6MHz_26dB BW

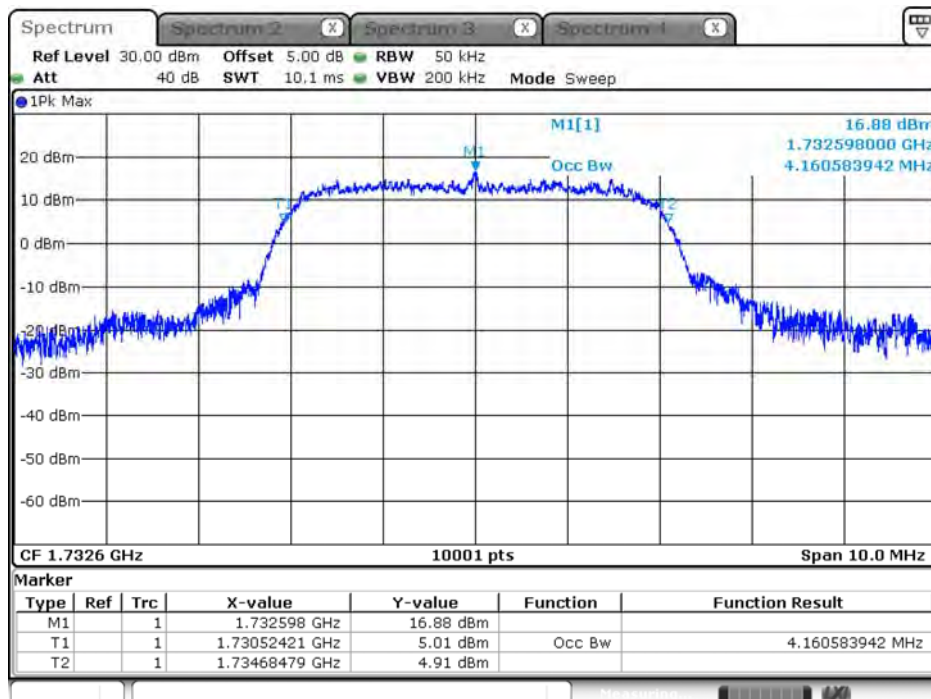
Date: 2.APR.2019 20:51:43

WCDMA_Band 4_HSUPA_1712.4MHz_99% BW

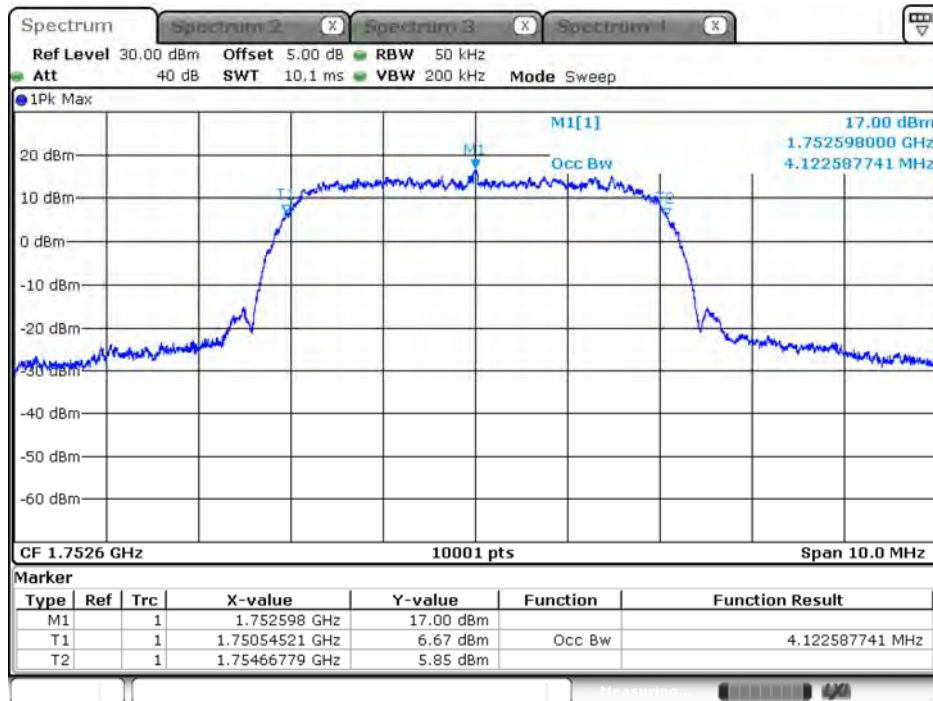


Date: 2.APR.2019 20:42:48

WCDMA_Band 4_HSUPA_1732.6MHz_99% BW



Date: 2.APR.2019 20:46:45

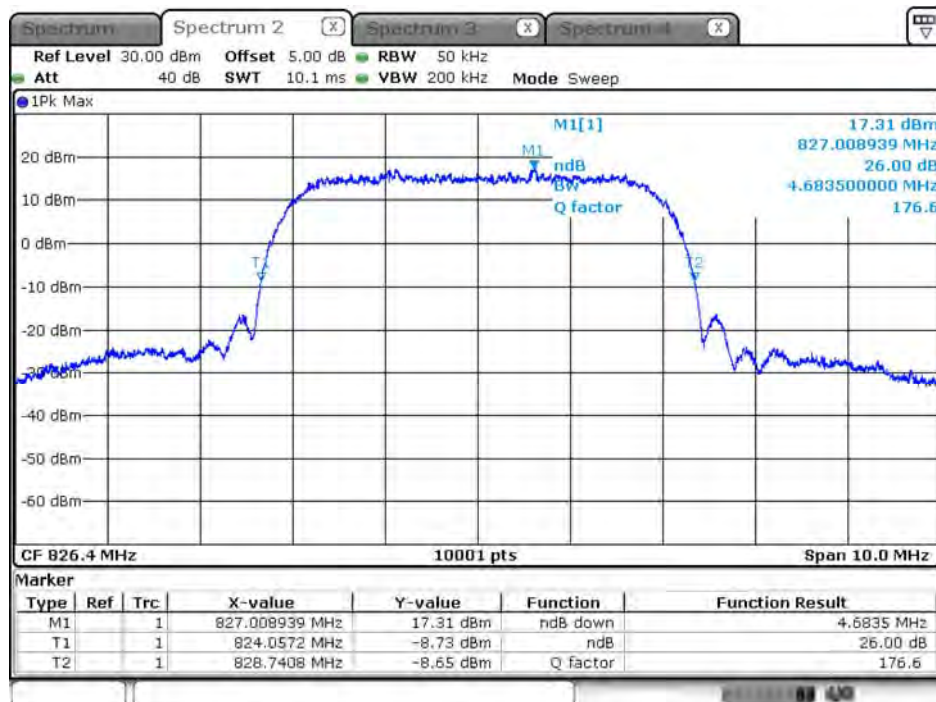
WCDMA_Band 4_HSUPA_1752.6MHz_99% BW

Date: 2.APR.2019 20:50:59

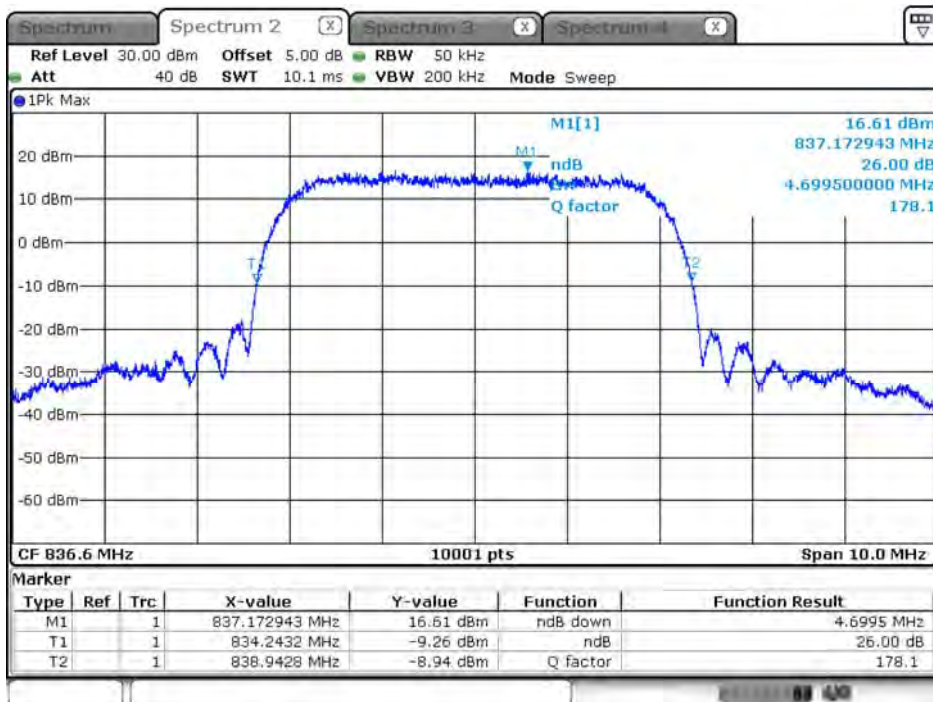
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 3: WCDMA_Band 5		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 5_RMC			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
826.4	4.683	4.128	N/A
836.6	4.699	4.149	N/A
846.6	4.691	4.149	N/A

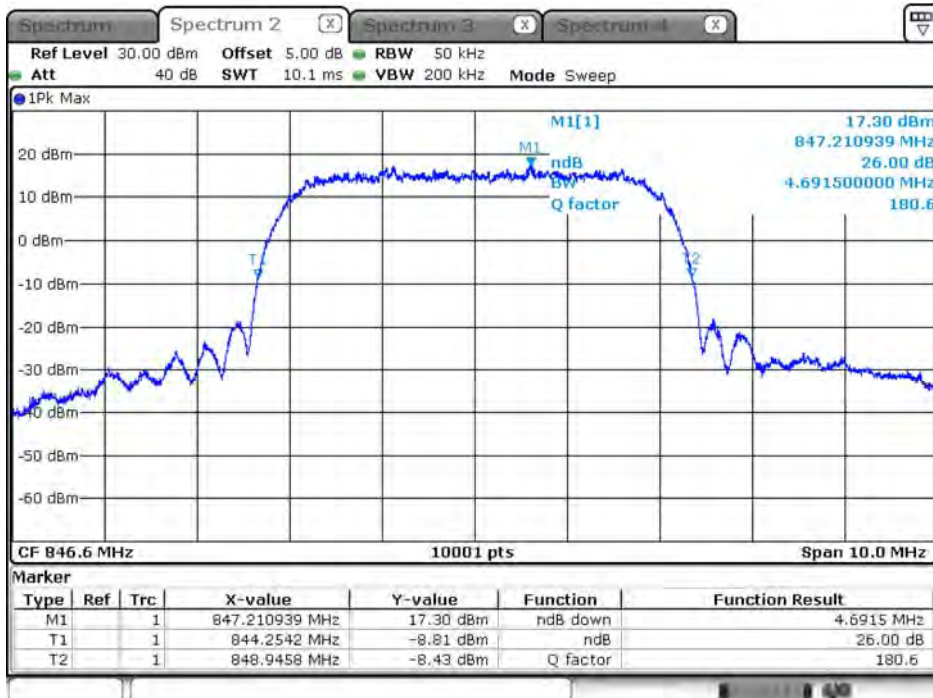
WCDMA_Band 5_RMC_826.4MHz_26dB BW



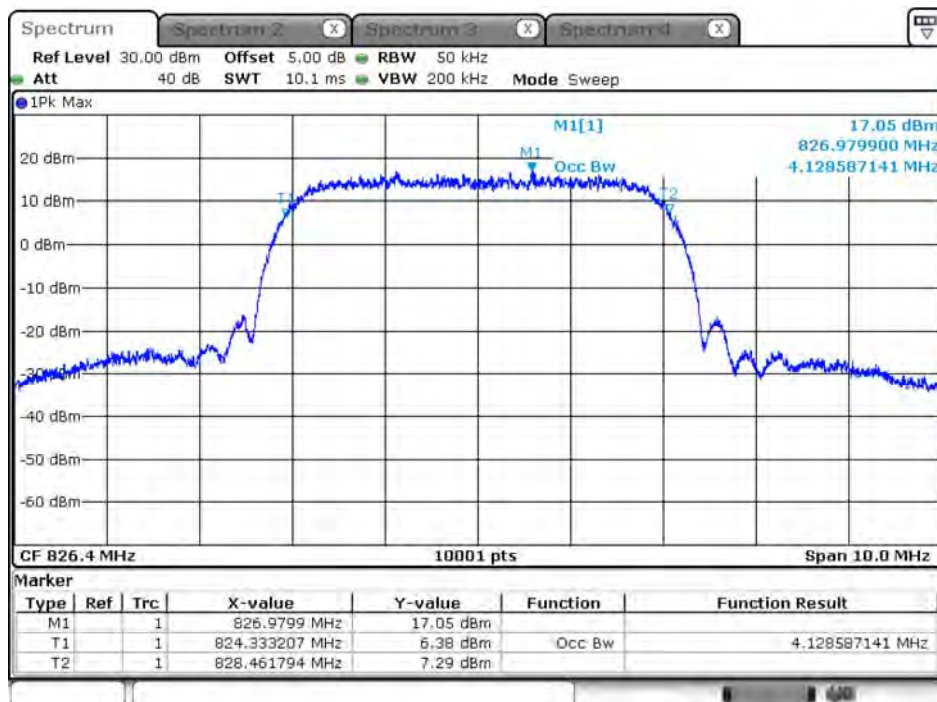
Date: 2.APR 2019 19:57:16

WCDMA_Band 5_RMC_836.6MHz_26dB BW

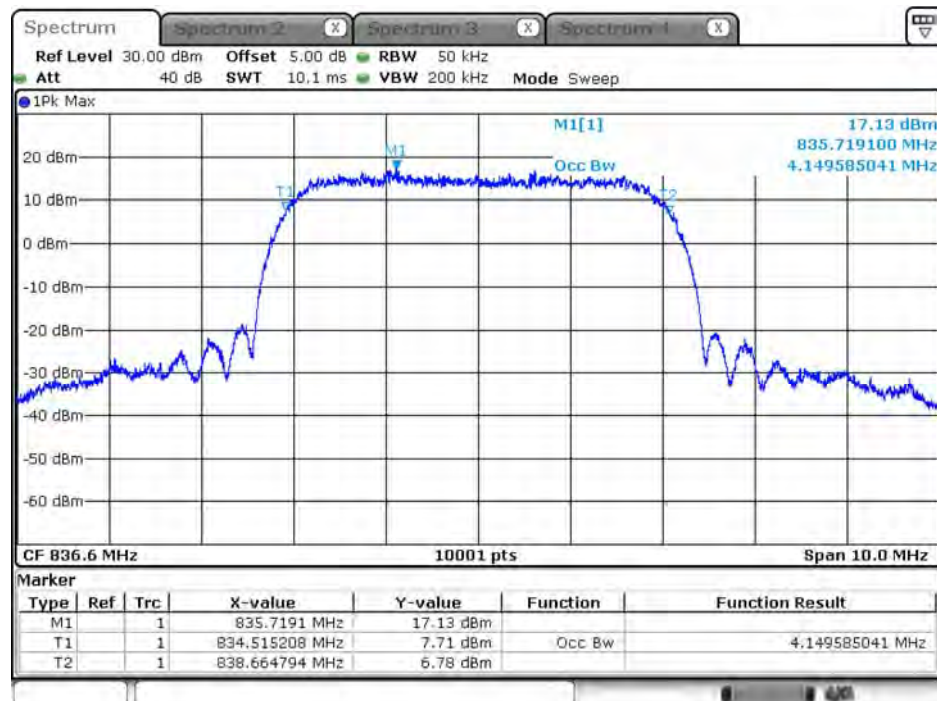
Date: 2.APR.2019 19:59:31

WCDMA_Band 5_RMC_846.6MHz_26dB BW

Date: 2.APR.2019 20:02:47

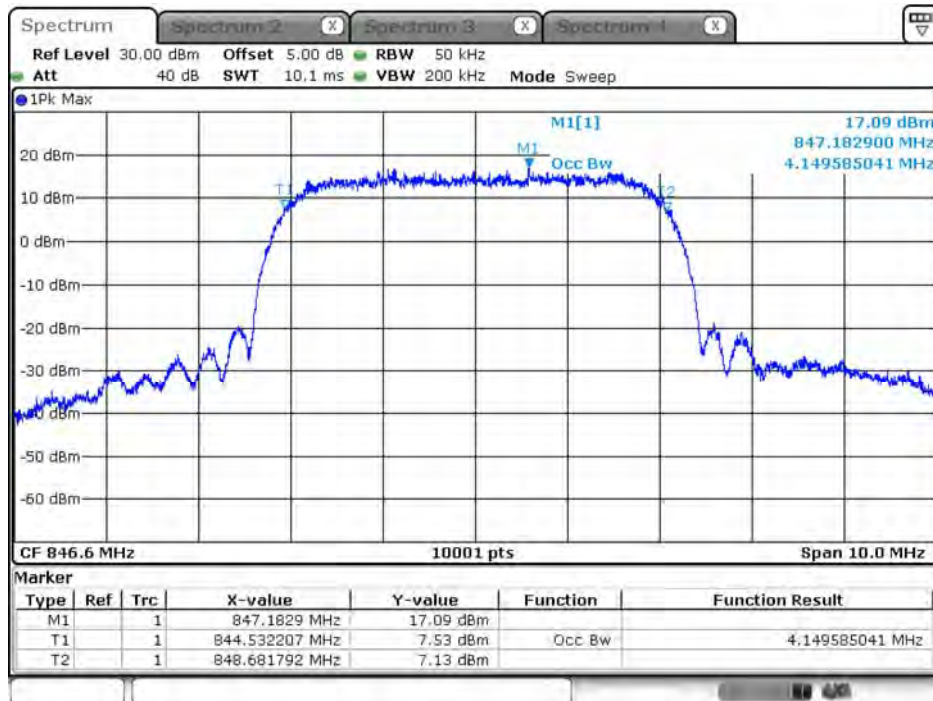
WCDMA_Band 5_RMC_826.4MHz_99% BW

Date: 2.APR.2019 19:55:35

WCDMA_Band 5_RMC_836.6MHz_99% BW

Date: 2.APR.2019 19:58:06

WCDMA_Band 5_RMC_846.6MHz_99% BW

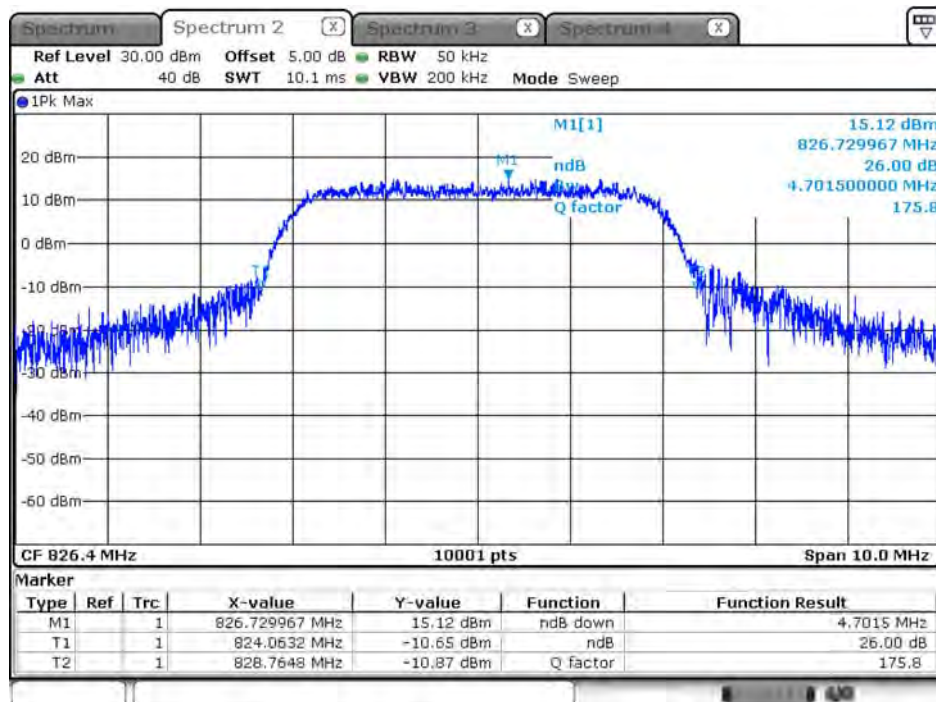


Date: 2 APR 2019 20:01:01

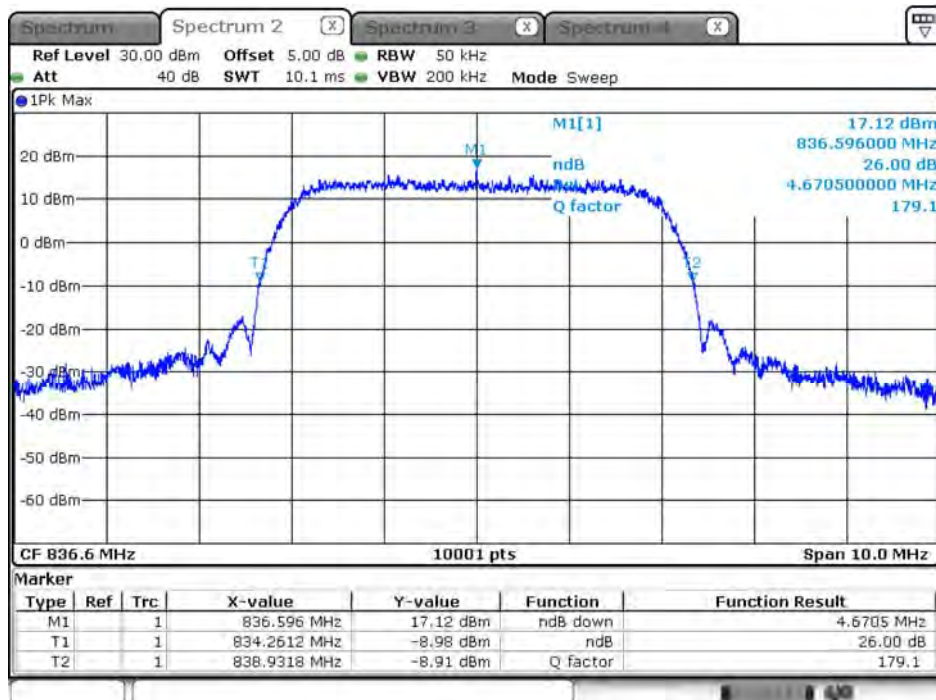
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 3: WCDMA_Band 5		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 5_HSDPA			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
826.4	4.701	4.217	N/A
836.6	4.670	4.157	N/A
846.6	4.682	4.142	N/A

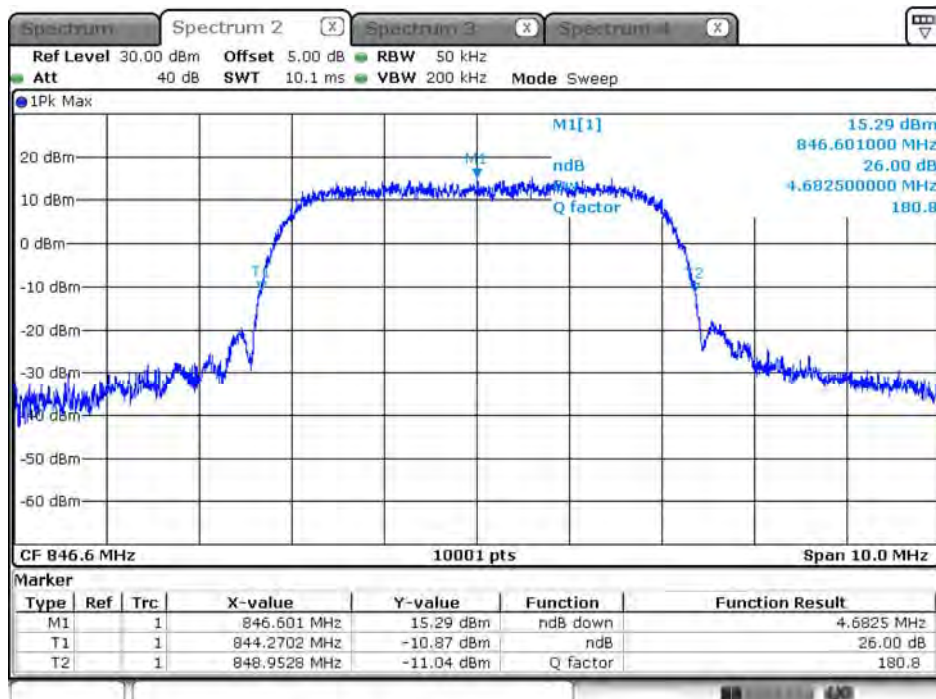
WCDMA_Band 5_HSDPA_826.4MHz_26dB BW



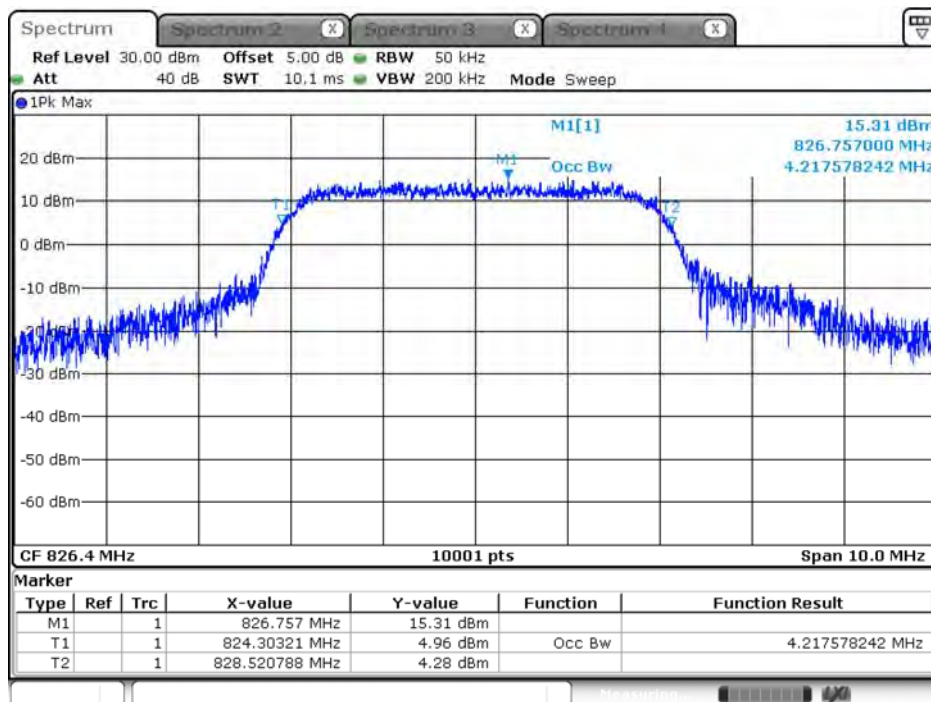
Date: 2.APR 2019 20:12:54

WCDMA_Band 5_HSDPA_836.6MHz_26dB BW

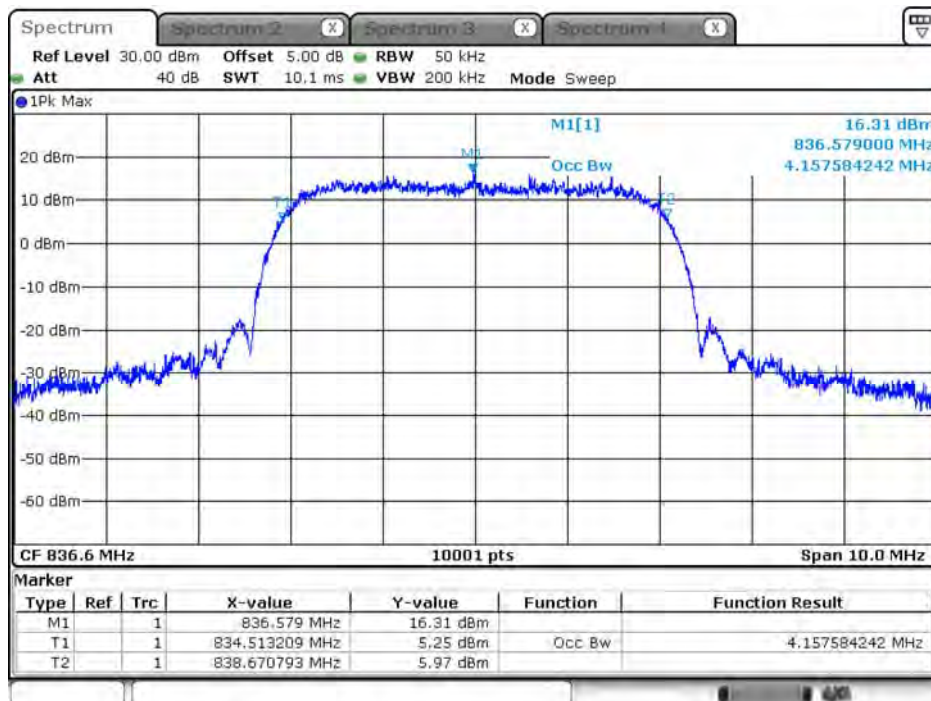
Date: 2.APR.2019 20:07:55

WCDMA_Band 5_HSDPA_846.6MHz_26dB BW

Date: 2.APR.2019 20:05:41

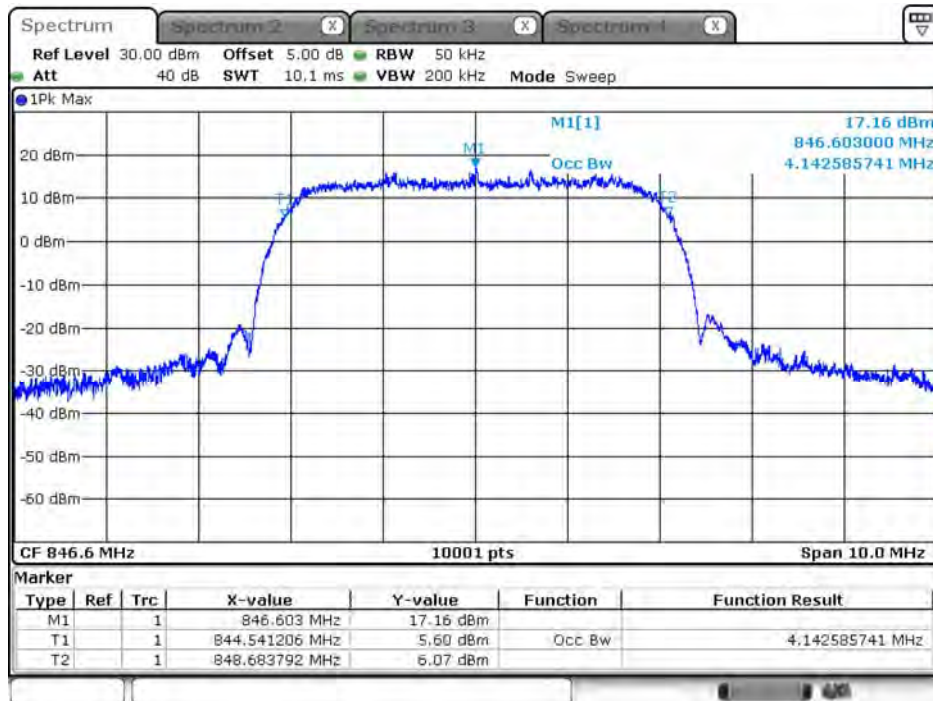
WCDMA_Band 5_HSDPA_826.4MHz_99% BW

Date: 2.APR.2019 20:12:31

WCDMA_Band 5_HSDPA_836.6MHz_99% BW

Date: 2.APR.2019 20:06:57

WCDMA_Band 5_HSDPA_846.6MHz_99% BW

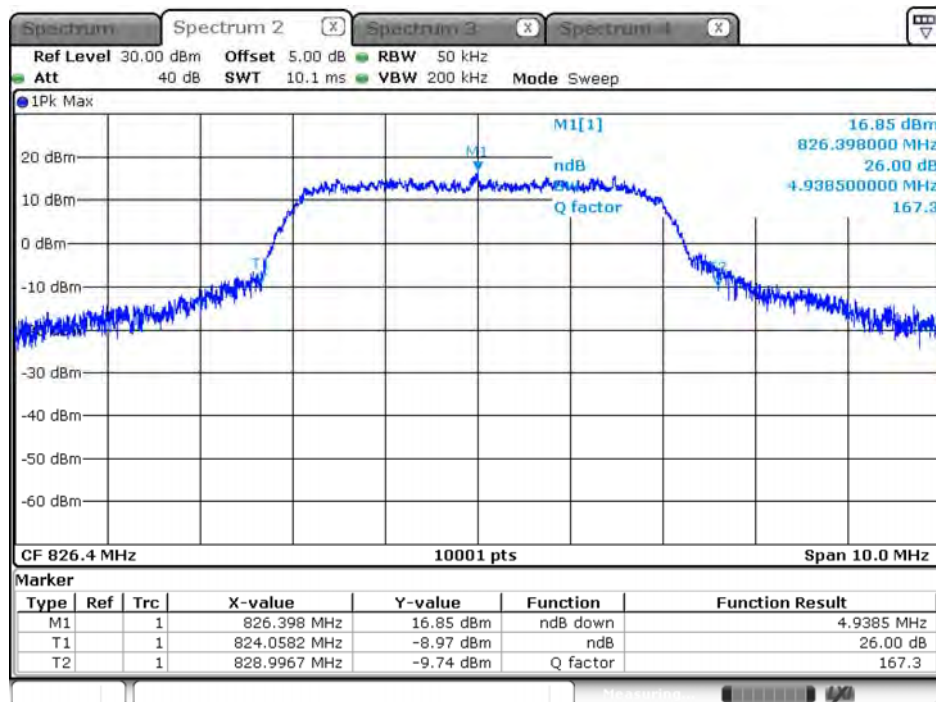


Date: 2 APR 2019 20:05:05

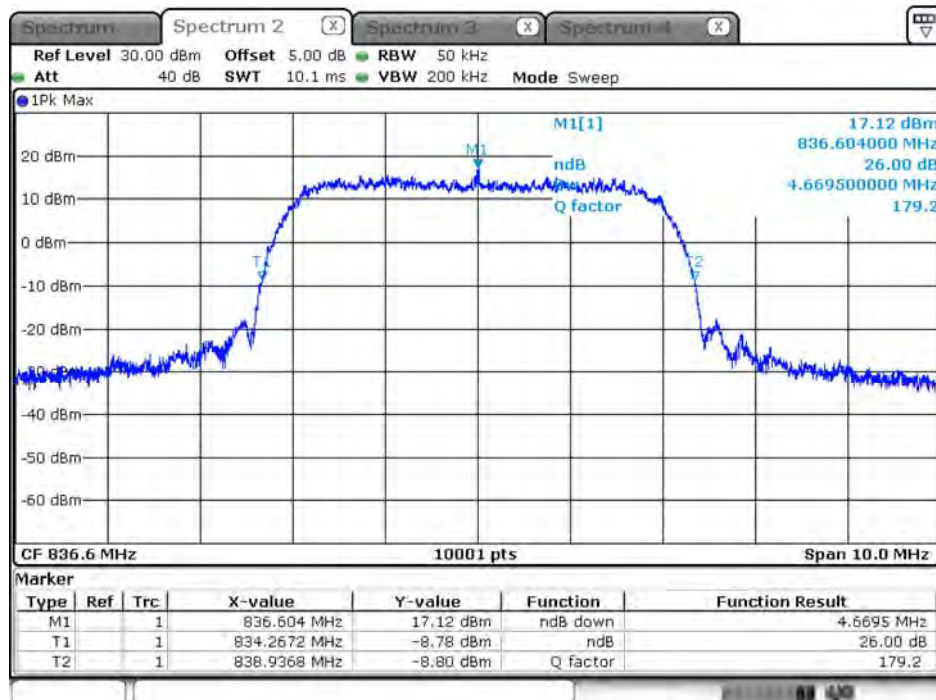
Product	Module		
Test Item	Occupied Bandwidth		
Test Mode	Mode 3: WCDMA_Band 5		
Date of Test	2019/04/16	Test Site	SR10-H

WCDMA_Band 5_HSUPA			
Frequency (MHz)	Measure Level (MHz)		Limit (MHz)
	26dB BW	99% BW	
826.4	4.938	4.249	N/A
836.6	4.669	4.143	N/A
846.6	4.615	4.132	N/A

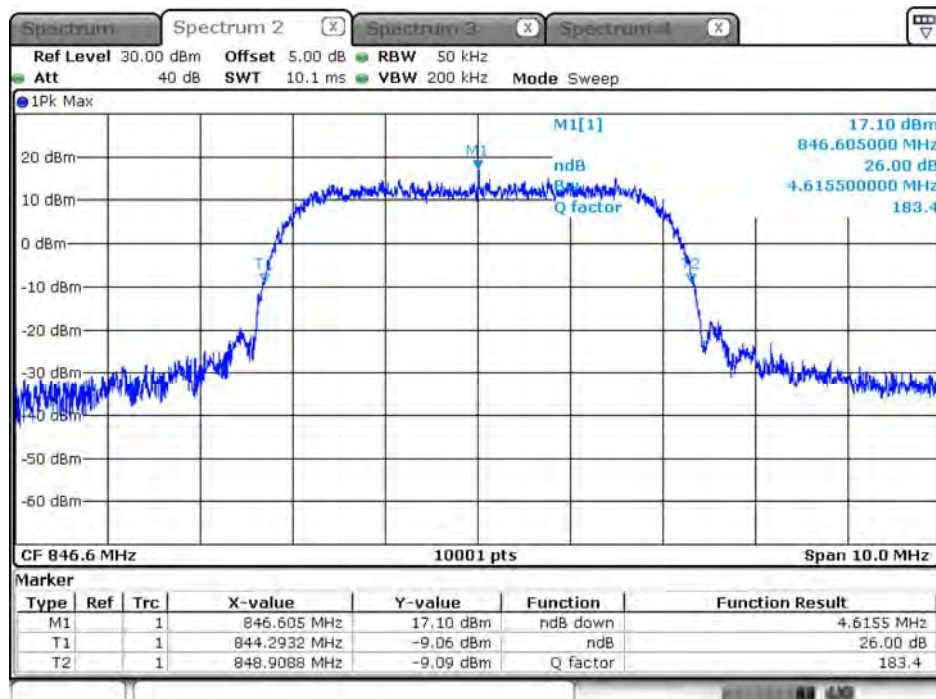
WCDMA_Band 5_HSUPA_826.4MHz_26dB BW



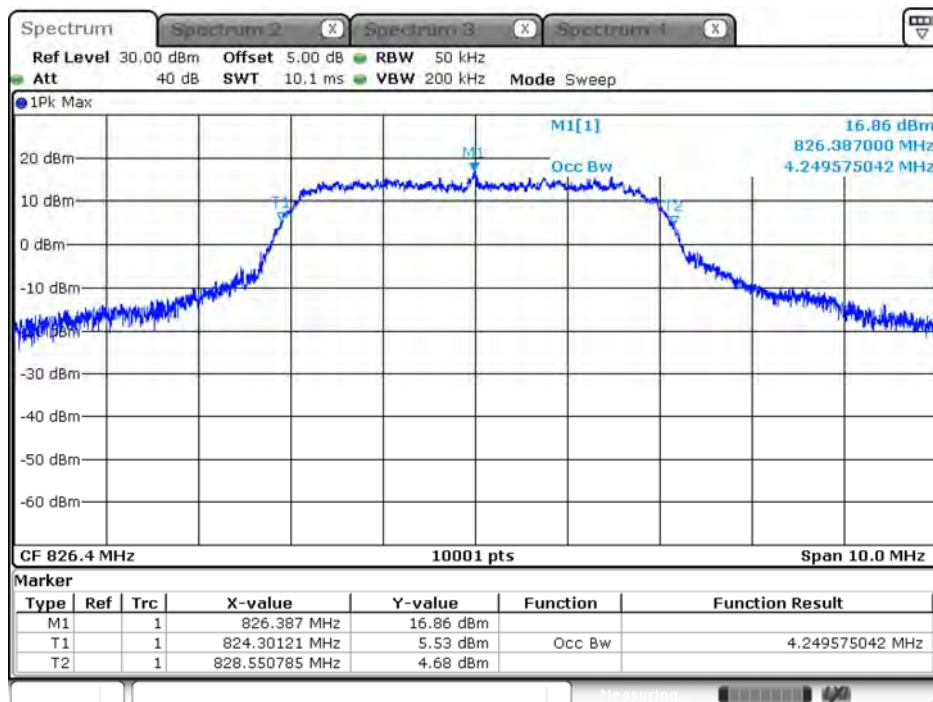
Date: 2.APR.2019 21:02:10

WCDMA_Band 5_HSUPA_836.6MHz_26dB BW

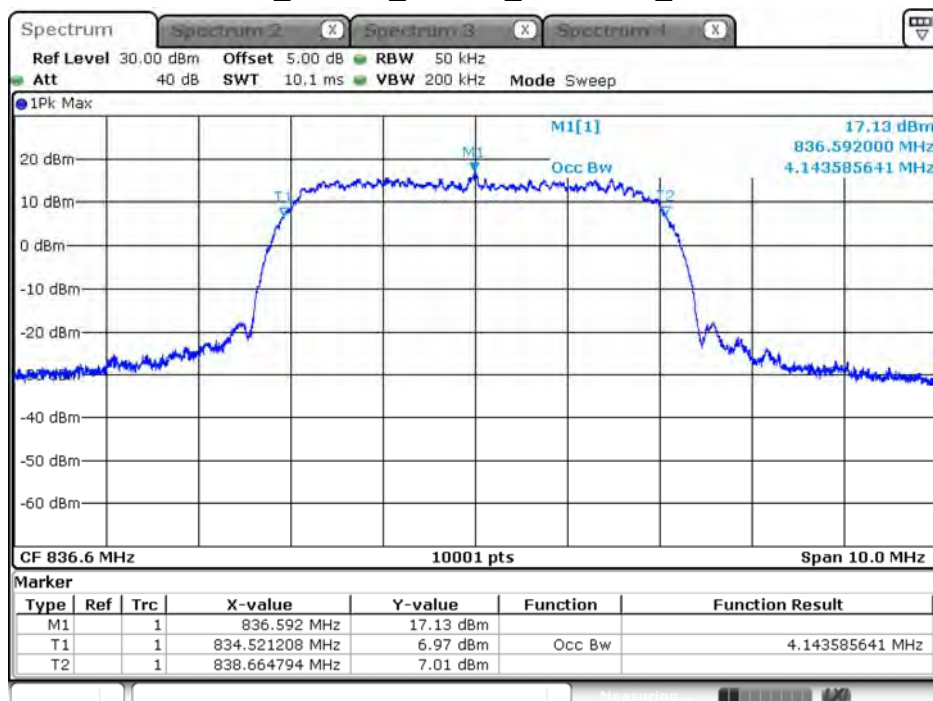
Date: 2.APR.2019 21:10:55

WCDMA_Band 5_HSUPA_846.6MHz_26dB BW

Date: 2.APR.2019 21:13:26

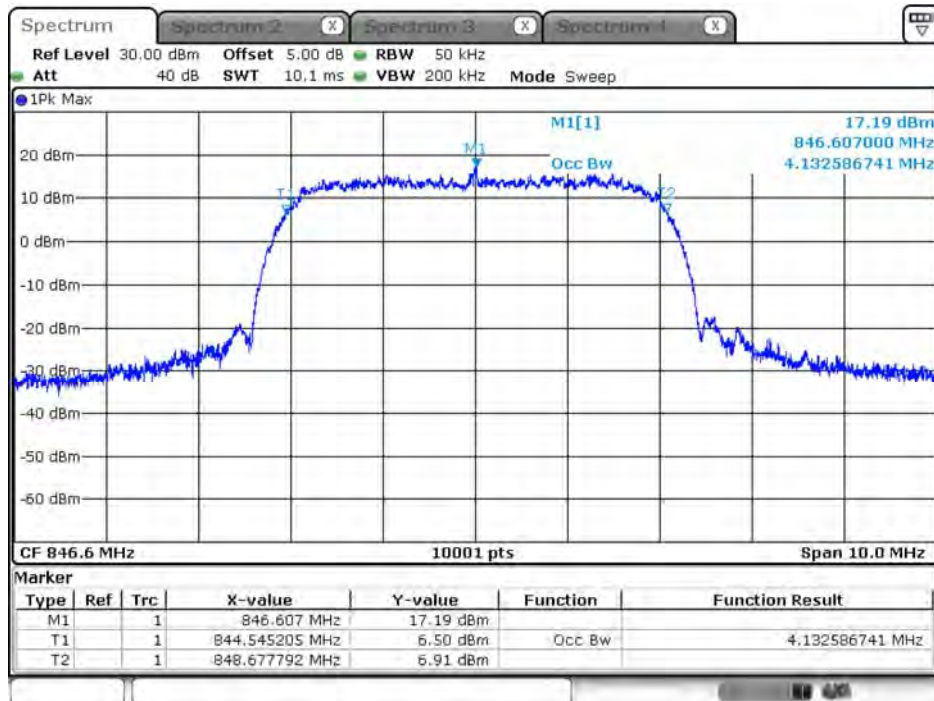
WCDMA_Band 5_HSUPA_826.4MHz_99% BW

Date: 2.APR.2019 20:57:18

WCDMA_Band 5_HSUPA_836.6MHz_99% BW

Date: 2.APR.2019 21:08:55

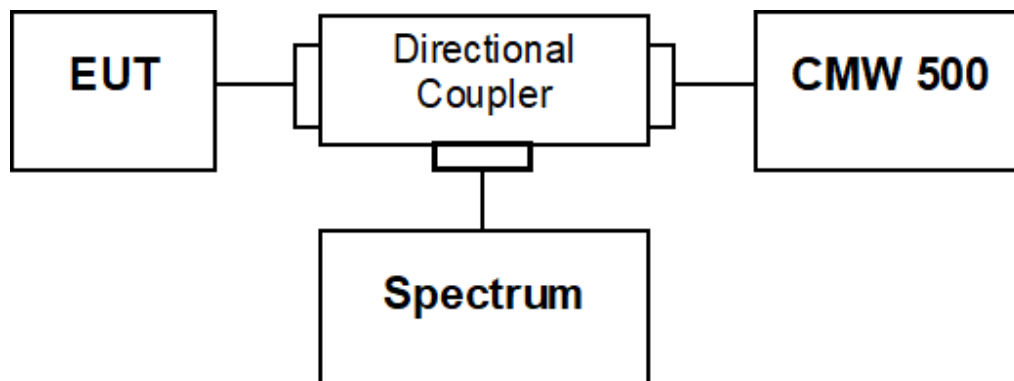
WCDMA_Band 5_HSUPA_846.6MHz_99% BW



Date: 2 APR 2019 21:13:12

5. Peak To Average Ratio

5.1. Test Setup



5.2. Test Procedure

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1 %.

5.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.7.2
ANSI C63.26-2015 Sub-clause 5.2.3.4

5.4. Test Result

Product	Module		
Test Item	Peak To Average Ratio		
Test Mode	Mode 1: WCDMA_Band 2		
Date of Test	2019/04/10	Test Site	SR10-H

Channel	Frequency (MHz)	Modulation	Peak (dBm)	Average (dBm)	PAPR (dB)
9262	1852.4	RMC	25.94	22.33	3.61
9400	1880		25.80	22.33	3.47
9538	1907.6		25.78	22.26	3.52
9262	1852.4	HSUPA	27.35	20.10	7.25
9400	1880		27.29	20.13	7.16
9538	1907.6		27.08	20.06	7.02
9262	1852.4	HSDPA	25.86	19.49	6.37
9400	1880		25.72	19.34	6.38
9538	1907.6		25.70	19.28	6.42

WCDMA_Band 2_RMC_1852.4MHz



Date: 2.APR.2019 18:34:34

WCDMA_Band 2_RMC_1880.0MHz



Date: 2.APR.2019 18:32:40

WCDMA_Band 2_RMC_1907.6MHz



Date: 2.APR.2019 18:32:12

WCDMA_Band 2_HSDPA_1852.4MHz

Date: 2.APR.2019 18:05:01

WCDMA_Band 2_HSDPA_1880.0MHz

Date: 2.APR.2019 18:05:46

WCDMA_Band 2_HSDPA_1907.6MHz

Date: 2.APR 2019 18:06:21

WCDMA_Band 2_HSUPA_1852.4MHz



Date: 2.APR.2019 17:58:42

WCDMA_Band 2_HSUPA_1880.0MHz



Date: 2.APR.2019 17:58:13

WCDMA_Band 2_HSUPA_1907.6MHz

Date: 2.APR.2019 17:57:37

Product	Module		
Test Item	Peak To Average Ratio		
Test Mode	Mode 2: WCDMA_Band 4		
Date of Test	2019/04/10	Test Site	SR10-H

Channel	Frequency (MHz)	Modulation	Peak (dBm)	Average (dBm)	PAPR (dB)
1312	1712.4	RMC	25.59	22.05	3.54
1413	1732.6		25.46	22.11	3.35
1513	1752.6		25.54	22.07	3.47
1312	1712.4	HSUPA	27.33	20.04	7.29
1413	1732.6		26.64	20.18	6.46
1513	1752.6		27.11	20.06	7.05
1312	1712.4	HSDPA	25.65	19.34	6.31
1413	1732.6		25.48	19.36	6.12
1513	1752.6		25.79	19.30	6.49

WCDMA_Band 4_RMC_1712.4MHz



Date: 2.APR.2019 18:28:21

WCDMA_Band 4_RMC_1732.6MHz

Date: 2.APR.2019 18:25:22

WCDMA_Band 4_RMC_1752.6MHz

Date: 2.APR.2019 18:24:44

WCDMA_Band 4_HSDPA_1712.4MHz

Date: 2.APR.2019 18:07:34

WCDMA_Band 4_HSDPA_1732.6MHz

Date: 2.APR.2019 18:08:33

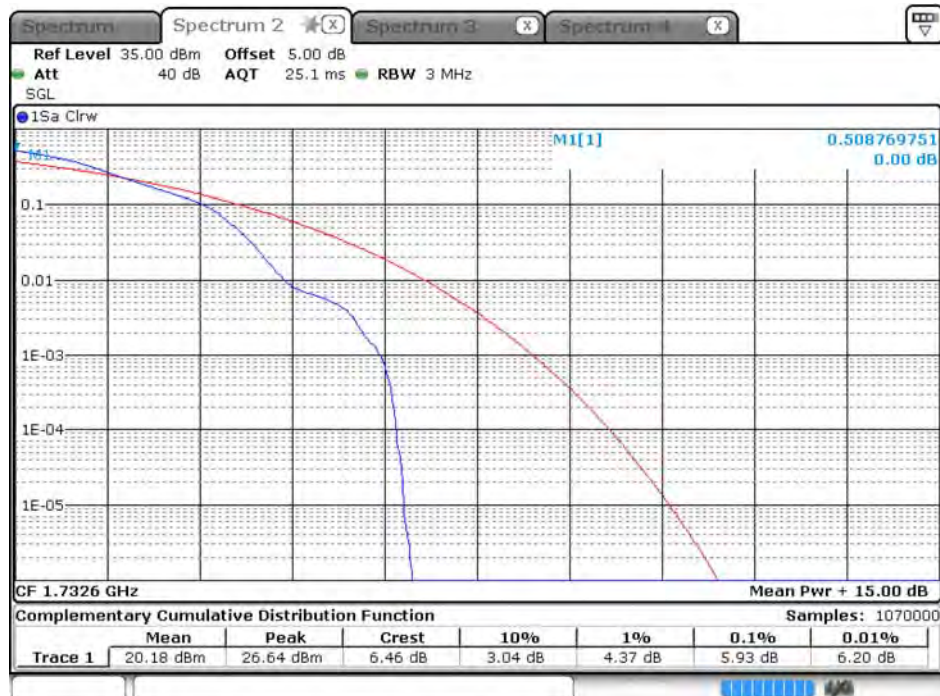
WCDMA_Band 4_HSDPA_1752.6MHz



Date: 2.APR.2019 18:09:05

WCDMA_Band 4_HSUPA_1712.4MHz

Date: 2.APR.2019 17:57:01

WCDMA_Band 4_HSUPA_1732.6MHz

Date: 2.APR.2019 17:56:26

WCDMA_Band 4_HSUPA_1752.6MHz



Date: 2.APR 2019 17:55:20

Product	Module		
Test Item	Peak To Average Ratio		
Test Mode	Mode 3: WCDMA_Band 5		
Date of Test	2019/04/10	Test Site	SR10-H

Channel	Frequency (MHz)	Modulation	Peak (dBm)	Average (dBm)	PAPR (dB)
4132	826.4	RMC	26.18	22.60	3.58
4183	836.6		26.08	22.57	3.51
4233	846.6		26.04	22.57	3.47
4132	826.4	HSUPA	27.65	20.41	7.24
4183	836.6		27.52	20.61	6.91
4233	846.6		27.50	20.55	6.95
4132	826.4	HSDPA	27.53	19.90	7.63
4183	836.6		26.03	19.75	6.28
4233	846.6		26.88	19.98	6.90

WCDMA_Band 5_RMC_826.4MHz



Date: 2.APR.2019 18:24:06

WCDMA_Band 5_RMC_836.6MHz

Date: 2.APR.2019 18:23:40

WCDMA_Band 5_RMC_846.6MHz

Date: 2.APR.2019 18:23:05

WCDMA_Band 5_HSDPA_826.4MHz

Date: 2.APR.2019 18:18:35

WCDMA_Band 5_HSDPA_836.6MHz

Date: 2.APR.2019 18:21:05

WCDMA_Band 5_HSDPA_846.6MHz

Date: 2.APR 2019 18:21:53

WCDMA_Band 5_HSUPA_826.4MHz



Date: 2.APR.2019 17:54:28

WCDMA_Band 5_HSUPA_836.6MHz



Date: 2.APR.2019 17:52:24

WCDMA_Band 5_HSUPA_846.6MHz

Date: 2.APR.2019 17:37:30