

# Appendix B.2

## WCDMA BAND II & IV & V

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## 1. Main Test Instruments

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2018/4/2	2019/4/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2018/9/2	2019/9/2
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2018/9/2	2019/9/2
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	EMC2063	2018/10/20	2019/10/19
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2018/4/2	2019/4/1
Band filter	N/A	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2018/7/12	2019/7/11
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2018/5/2	2019/5/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2018/3/13	2019/3/12
RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/9/15	2019/9/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2018/3/13	2019/3/12
Coaxial Cable	SGS	N/A	SEM031-01	2018/7/12	2019/7/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/9/2	2019/9/2
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2018/9/10	2019/9/10
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/27	2019/11/27
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2018/5/2	2019/5/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2018/3/13	2019/3/12

## 2. Measurement Uncertainty

For a 95% confidence level ( $k = 2$ ), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item	Extended Uncertainty	Data
Transmit Output Power Data	Power [dBm]	$U = \pm 0.37$ dB
Bandwidth	Magnitude [%]	$U = \pm 0.2\%$
Band Edge Compliance	Disturbance Power [dBm]	$U = \pm 2.0$ dB
Spurious Emissions, Conducted	Disturbance Power [dBm]	$U = \pm 2.0$ dB
Frequency Stability	Frequency Accuracy [ppm]	$U = \pm 0.24$ ppm

## 5. Effective (Isotropic) Radiated Power

### 5.1. Test Result

BAND	Test Mode	Channel	Power(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
Band II	UMTS/TM1	9262	23.01	23.57	33.00	PASS
		9400	23.14	23.70	33.00	PASS
		9538	23.08	23.64	33.00	PASS
	UMTS/TM2	9262	22.06	21.50	33.00	PASS
		9400	22.15	21.59	33.00	PASS
		9538	21.96	21.40	33.00	PASS
Band IV	UMTS/TM1	1312	21.85	22.22	30.00	PASS
		1413	21.82	22.19	30.00	PASS
		1513	21.84	22.21	30.00	PASS
	UMTS/TM2	1312	20.15	19.78	30.00	PASS
		1413	20.25	19.88	30.00	PASS
		1513	20.32	19.95	30.00	PASS

BAND	Test Mode	Channel	Power(dBm)	ERP(dBm)	Limit(dBm)	Verdict
Band V	UMTS/TM1	4132	22.59	18.12	38.45	PASS
		4182	22.89	18.42	38.45	PASS
		4233	22.46	17.99	38.45	PASS
	UMTS/TM2	4132	21.36	16.89	38.45	PASS
		4182	21.31	16.84	38.45	PASS
		4233	21.41	16.94	38.45	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

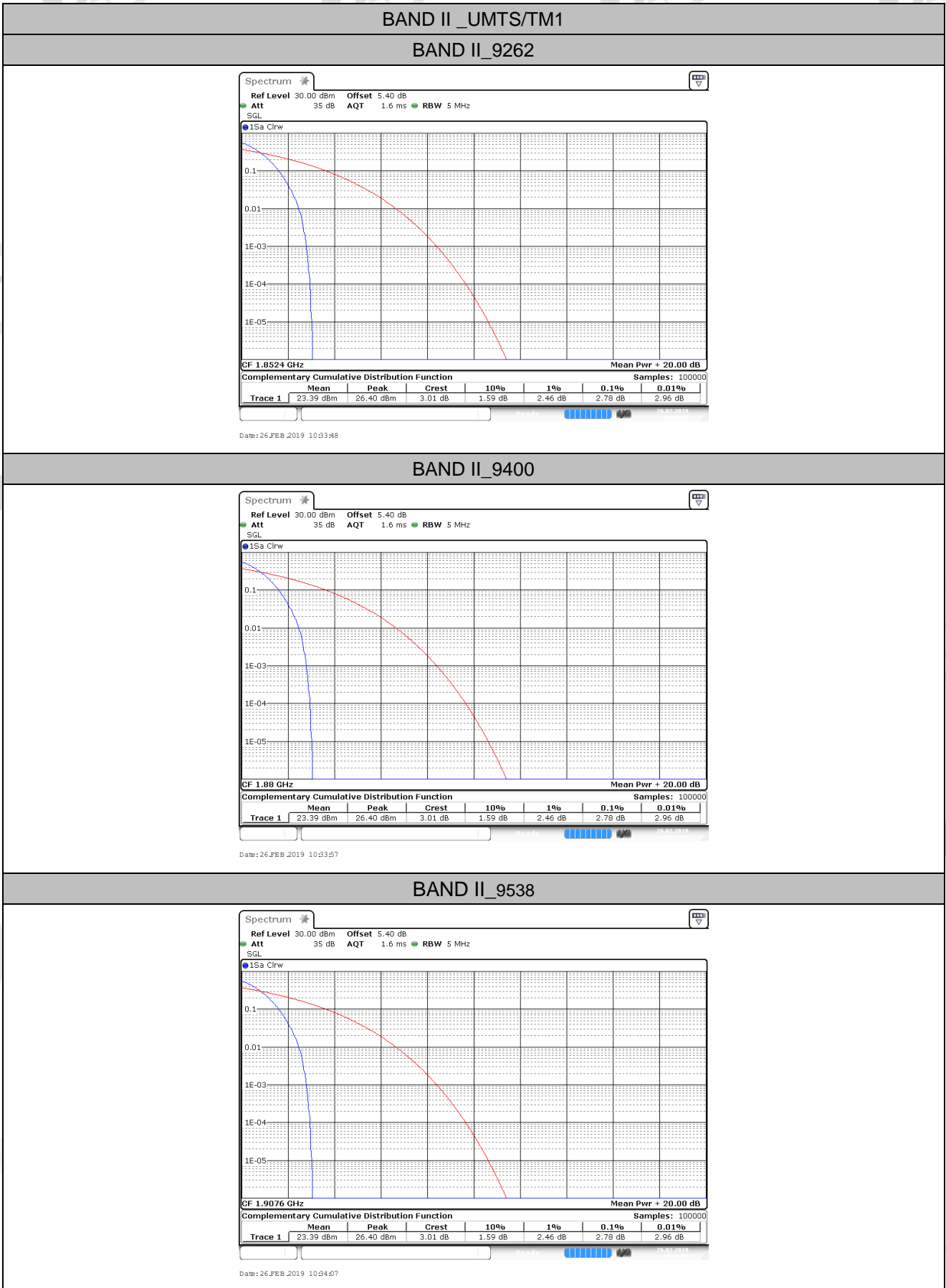
b: SGP=Signal Generator Level

## 6. Peak-to-Average Ratio(CCDF)

### 6.1. Test Result

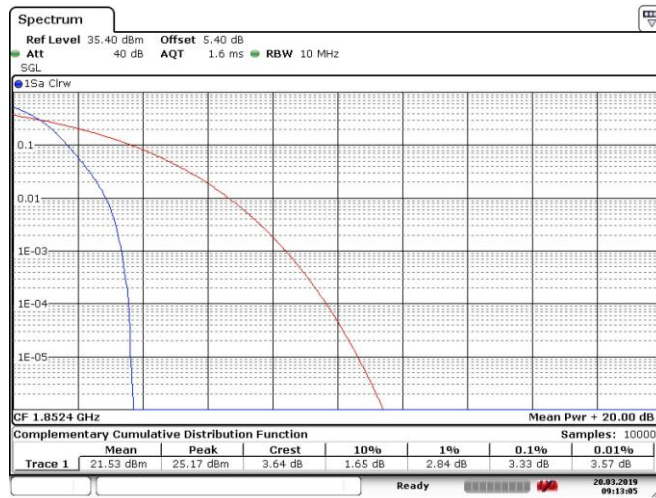
BAND	Test Mode	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band II	UMTS/TM1	9262	2.78	13	PASS
		9400	2.78	13	PASS
		9538	2.78	13	PASS
	UMTS/TM2	9262	3.33	13	PASS
		9400	4.67	13	PASS
		9538	4.41	13	PASS
Band IV	UMTS/TM1	1312	3.13	13	PASS
		1413	3.13	13	PASS
		1513	3.13	13	PASS
	UMTS/TM2	1312	3.13	13	PASS
		1413	3.91	13	PASS
		1513	4.49	13	PASS
Band V	UMTS/TM1	4132	2.70	13	PASS
		4182	3.01	13	PASS
		4233	2.29	13	PASS
	UMTS/TM2	4132	3.65	13	PASS
		4182	3.16	13	PASS
		4233	2.58	13	PASS

### 6.2. Test Plots



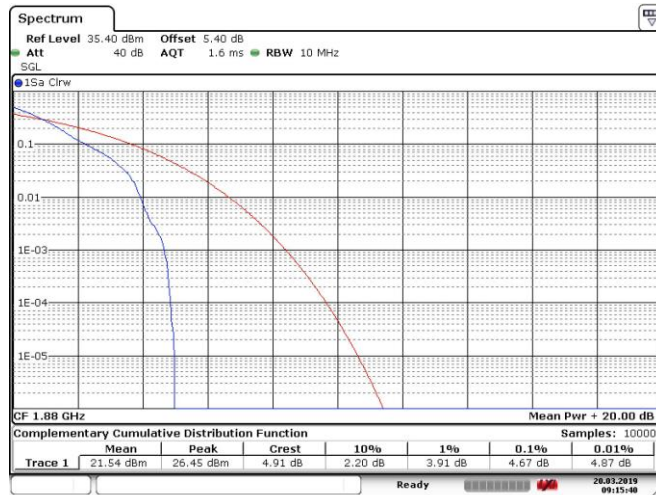
BAND II \_UMTS/TM2

BAND II\_9262



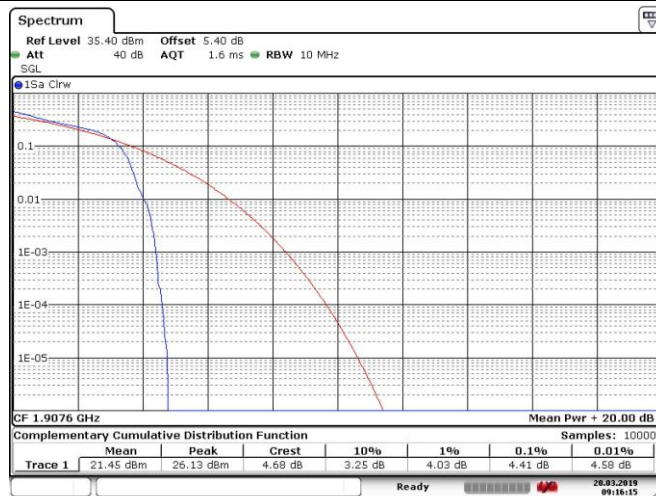
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BAND II\_9400



Date: 20 MAR 2019 09:15:40

BAND II\_9538

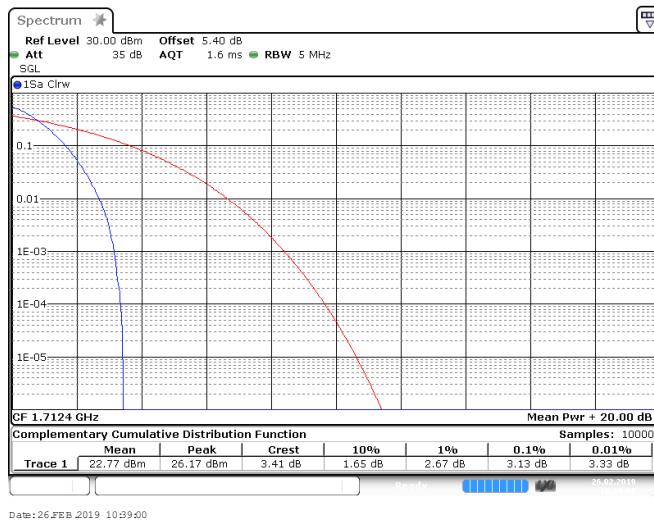


Date: 20 MAR 2019 09:16:15

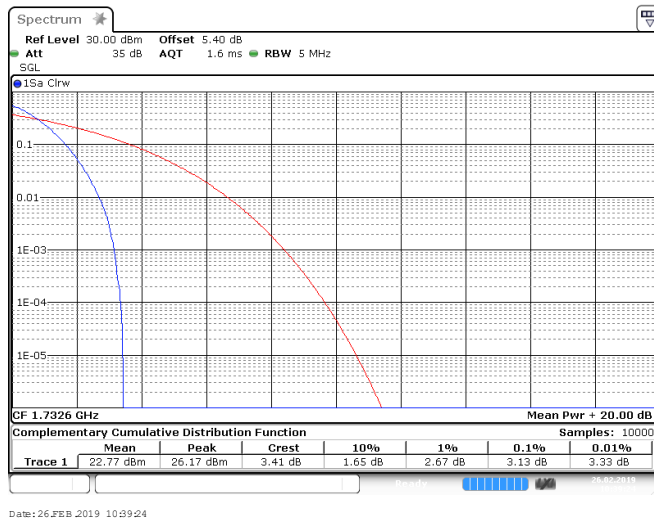


BAND IV\_UMTS/TM1

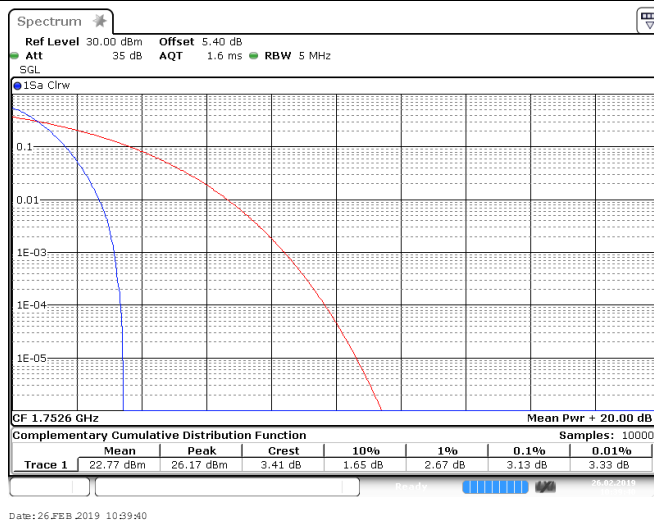
BAND IV\_1312



BAND IV\_1413

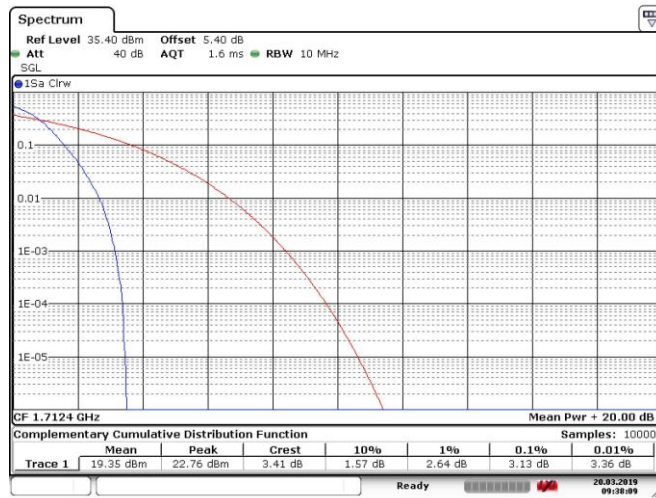


BAND IV\_1513



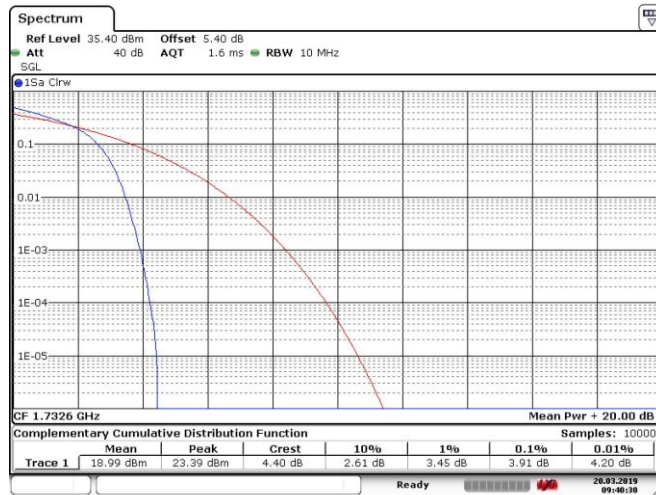
BAND IV\_UMTS/TM2

BAND IV\_1312



Date: 20 MAR 2019 09:38:09

BAND IV\_1413



Date: 20 MAR 2019 09:40:30

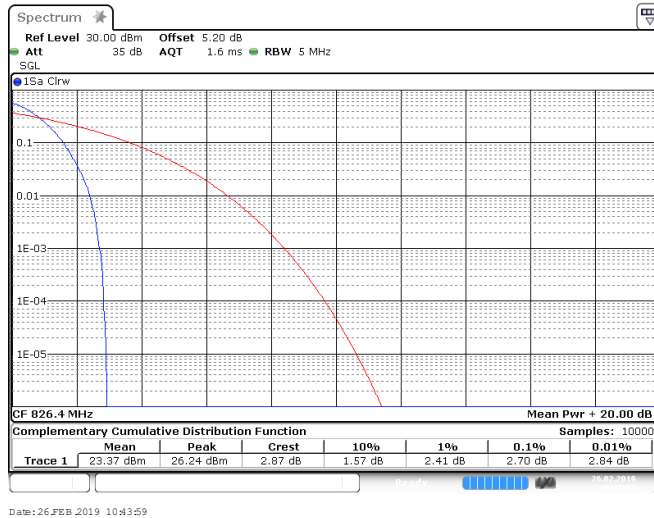
BAND IV\_1513



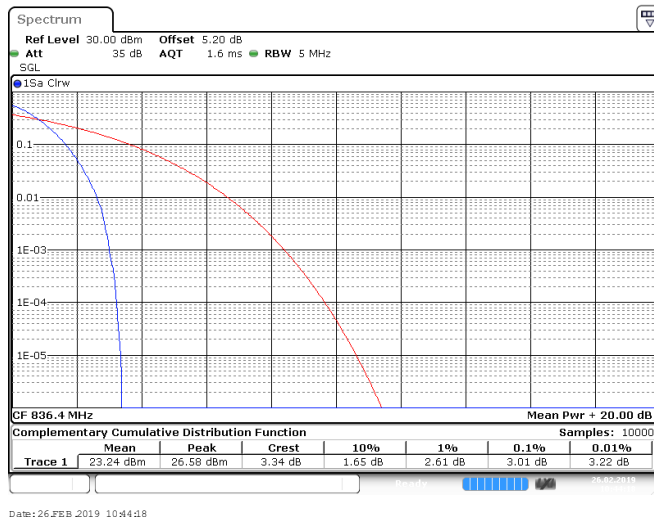
Date: 20 MAR 2019 09:40:59

BAND V\_UMTS/TM1

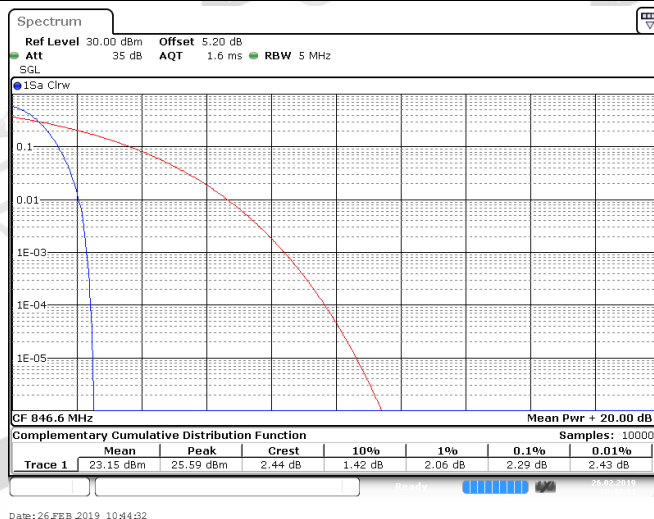
BAND V\_4132



BAND V\_4182

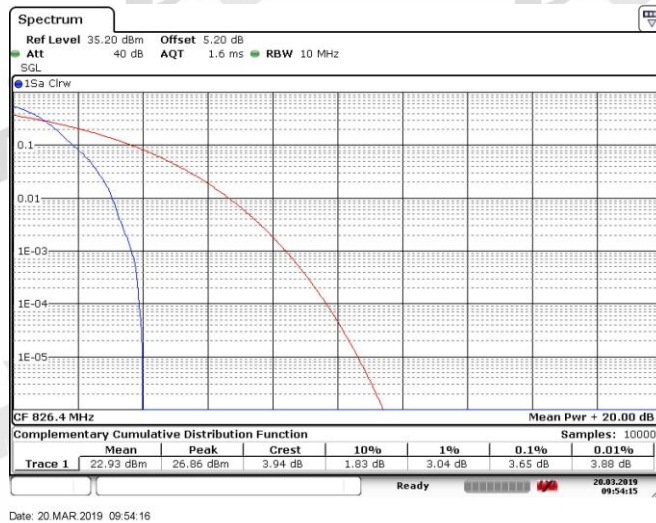


BAND V\_4233

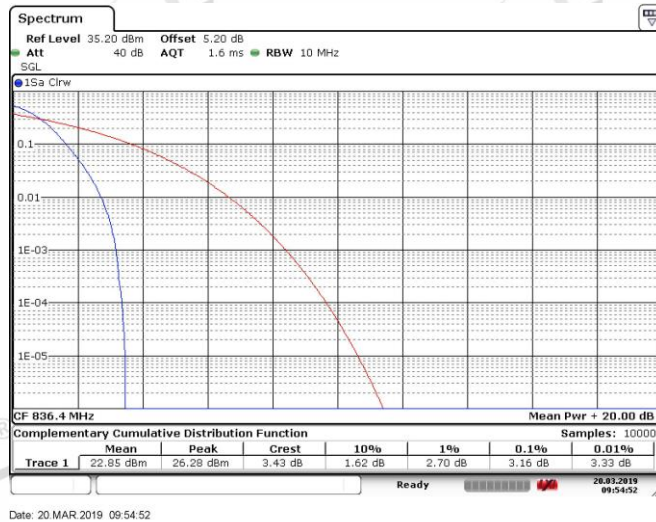


BAND V\_UMTS/TM2

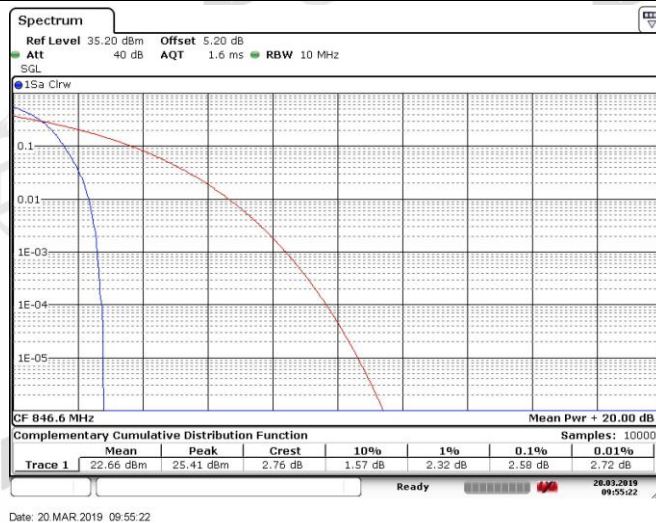
BAND V\_4132



BAND V\_4182



BAND V\_4233



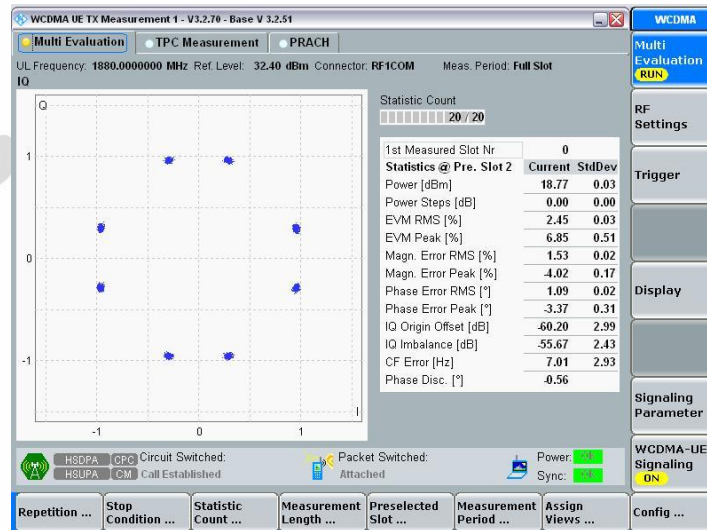


## 7. Modulation Characteristics

### 7.1. Test BAND = WCDMA BAND II

#### 7.1.1. Test Mode = UMTS/TM1

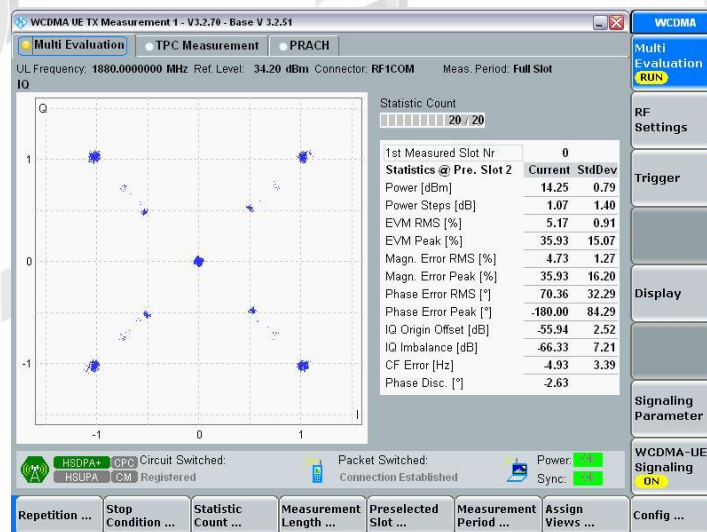
##### 7.1.1.1. Test Channel = MCH



### 7.2. Test BAND = WCDMA BAND II

#### 7.2.1. Test Mode = UMTS/TM2

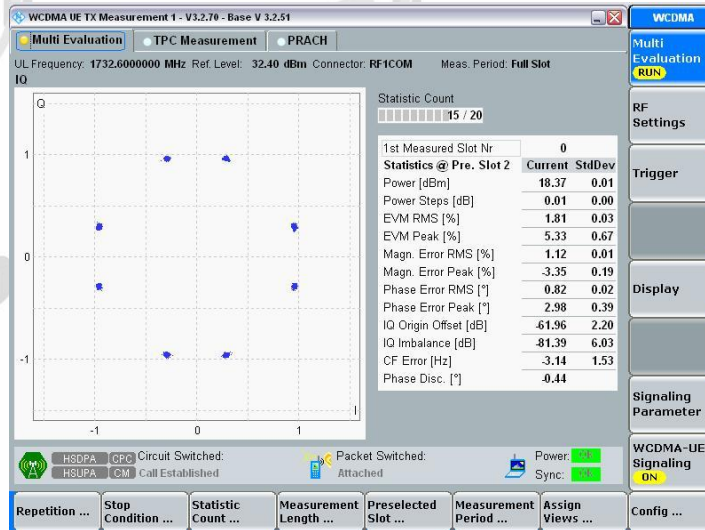
##### 7.2.1.1. Test Channel = MCH



### 7.3. Test BAND = WCDMA BAND IV

#### 7.3.1. Test Mode = UMTS/TM1

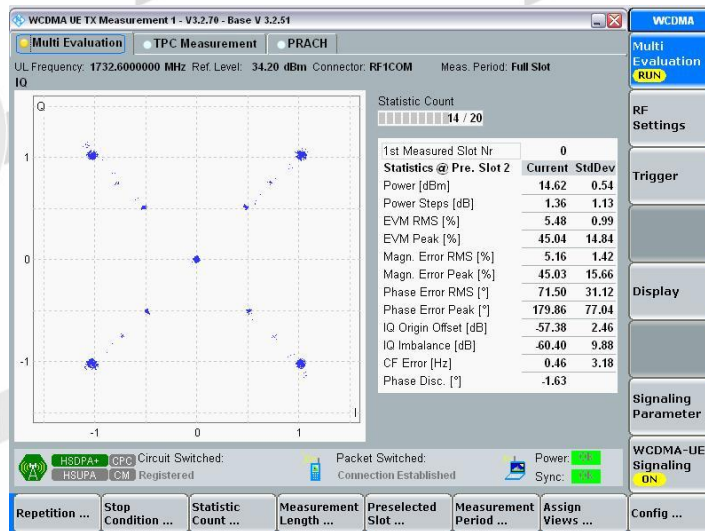
##### 7.3.1.1. Test Channel = MCH



### 7.4. Test BAND = WCDMA BAND IV

#### 7.4.1. Test Mode = UMTS/TM2

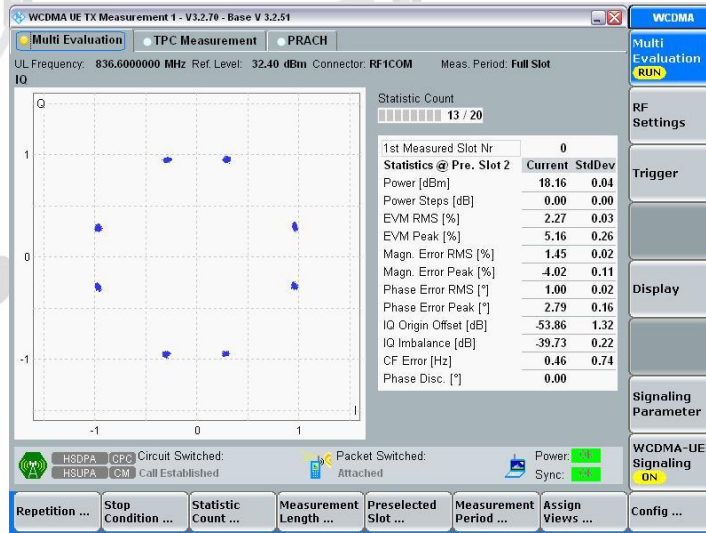
##### 7.4.1.1. Test Channel = MCH



### 7.5. Test BAND = WCDMA BAND V

#### 7.5.1. Test Mode = UMTS/TM1

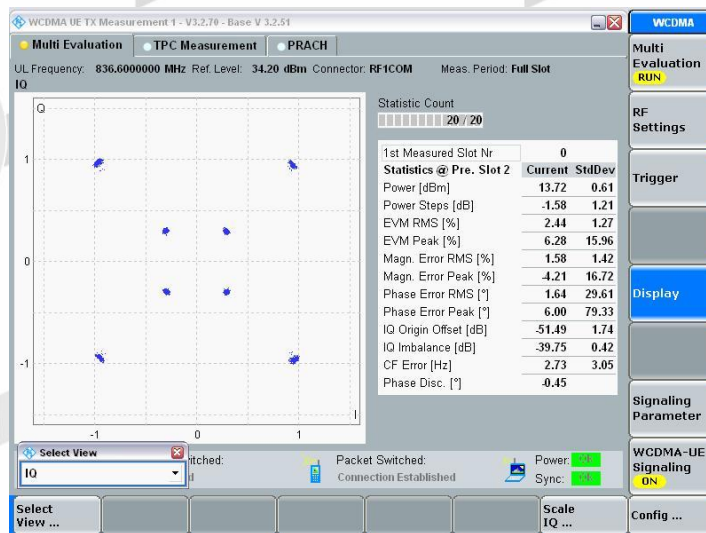
##### 7.5.1.1. Test Channel = MCH



### 7.6. Test BAND = WCDMA BAND V

#### 7.6.1. Test Mode = UMTS/TM2

##### 7.6.1.1. Test Channel = MCH



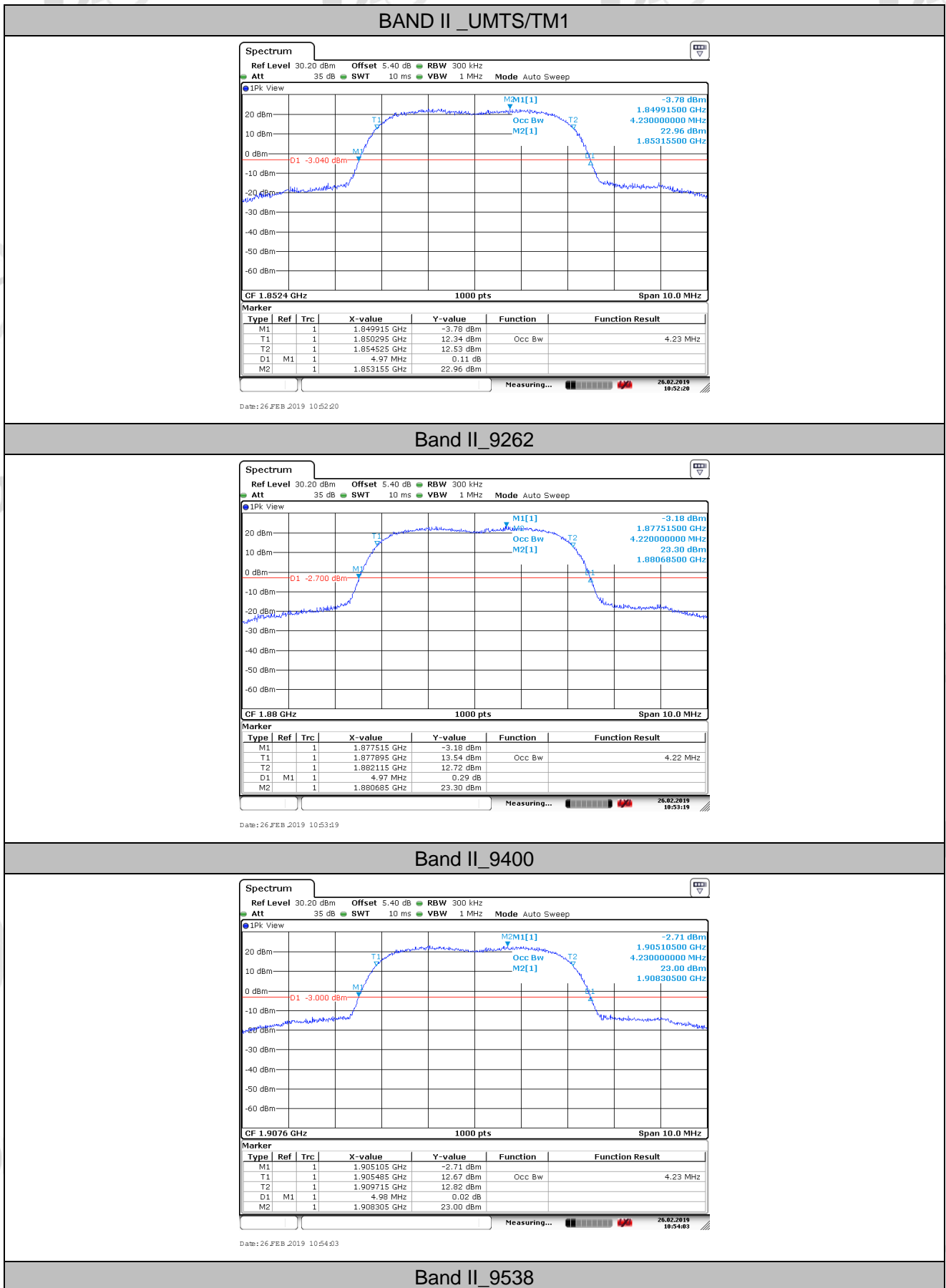
## 8. 26dB Bandwidth and Occupied Bandwidth

### 8.1. Test Result

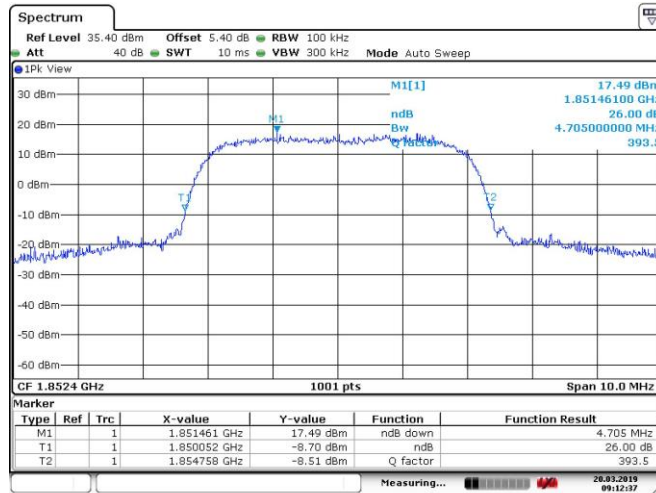
BAND	Test mode	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band II	UMTS/TM1	9262	4130.00	4700.00	---	PASS
		9400	4140.00	4690.00	---	PASS
		9538	4150.00	4690.00	---	PASS
	UMTS/TM2	9262	4125.87	4705.00	---	PASS
		9400	4145.85	4685.00	---	PASS
		9538	4145.85	4705.00	---	PASS
Band IV	UMTS/TM1	1312	4130.00	4700.00	---	PASS
		1413	4140.00	4690.00	---	PASS
		1513	4130.00	4680.00	---	PASS
	UMTS/TM2	1312	4125.87	4705.00	---	PASS
		1413	4125.87	4705.00	---	PASS
		1513	4155.84	4705.00	---	PASS
Band V	UMTS/TM1	4132	4130.00	4700.00	---	PASS
		4182	4120.00	4690.00	---	PASS
		4233	4130.00	4710.00	---	PASS
	UMTS/TM2	4132	4225.77	4735.00	---	PASS
		4182	4215.78	4735.00	---	PASS
		4233	4205.79	4715.00	---	PASS



### 8.2. Test Plots

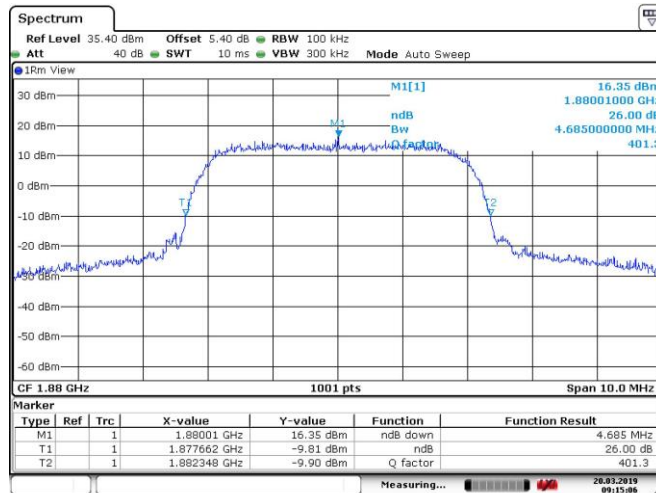


BAND II \_UMTS/TM2



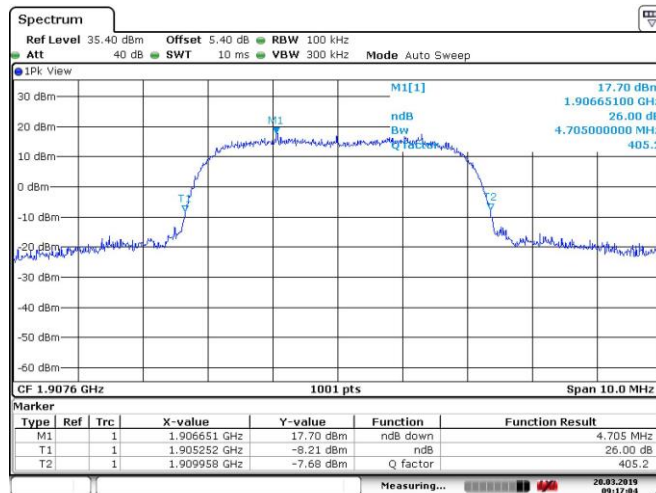
Date: 20 MAR 2019 09:12:38

Band II\_9262



Date: 20 MAR 2019 09:15:06

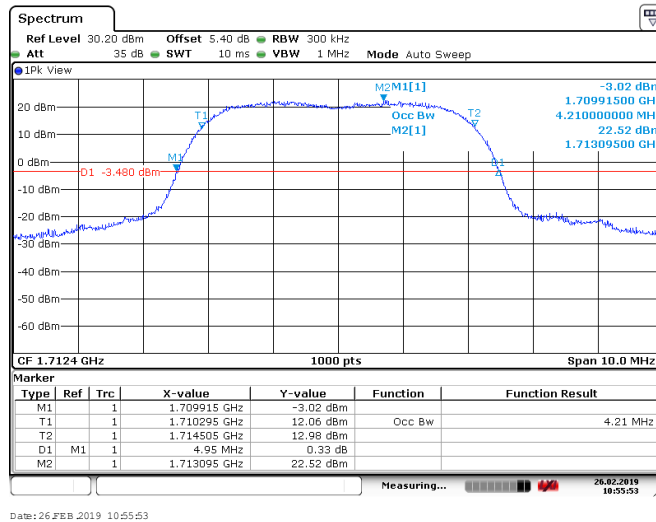
Band II\_9400



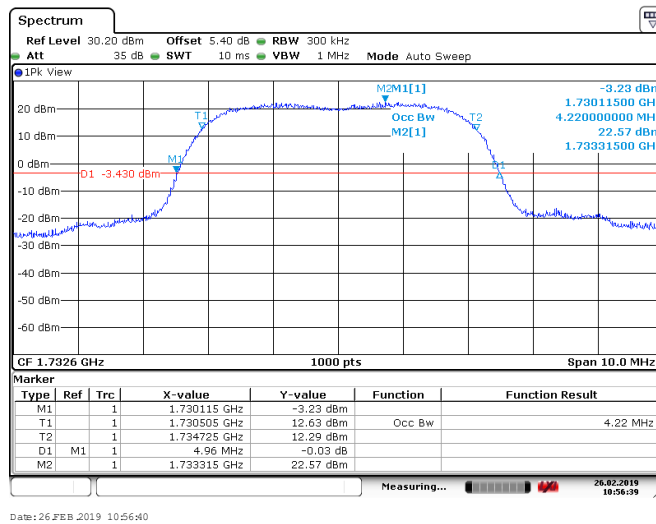
Date: 20 MAR 2019 09:17:04

Band II\_9538

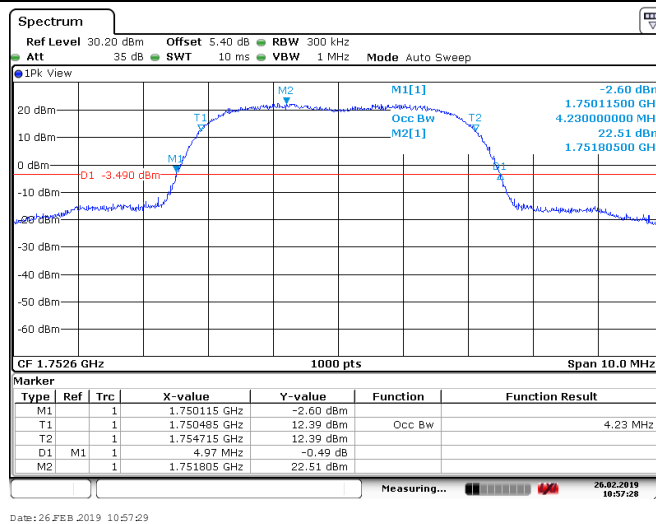
### BAND IV\_UMTS/TM1



### Band IV\_1312

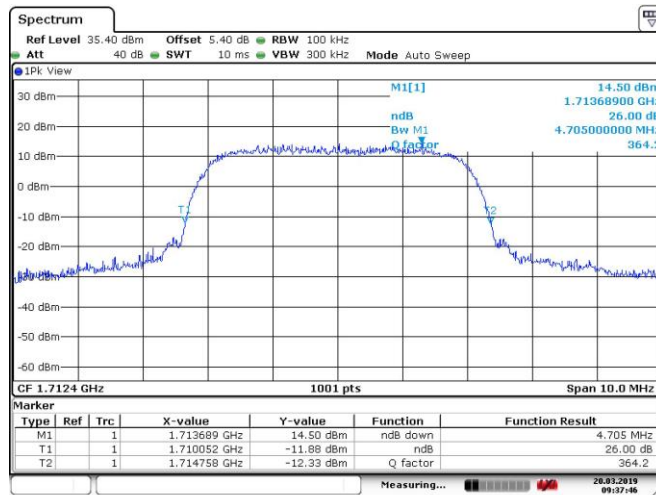


### Band IV\_1413



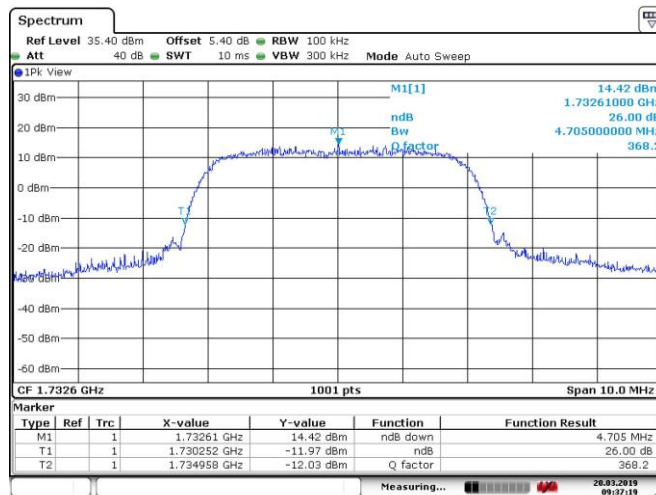
### Band IV\_1513

### BAND IV\_UMTS/TM2



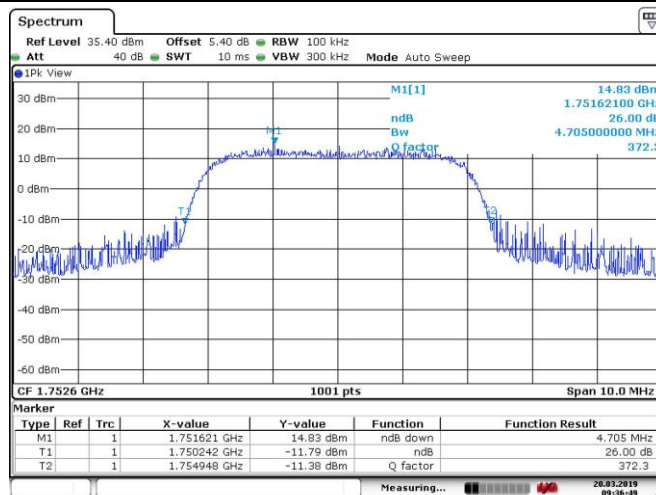
Date: 20 MAR 2019 09:37:46

### Band IV\_1312



Date: 20 MAR 2019 09:37:19

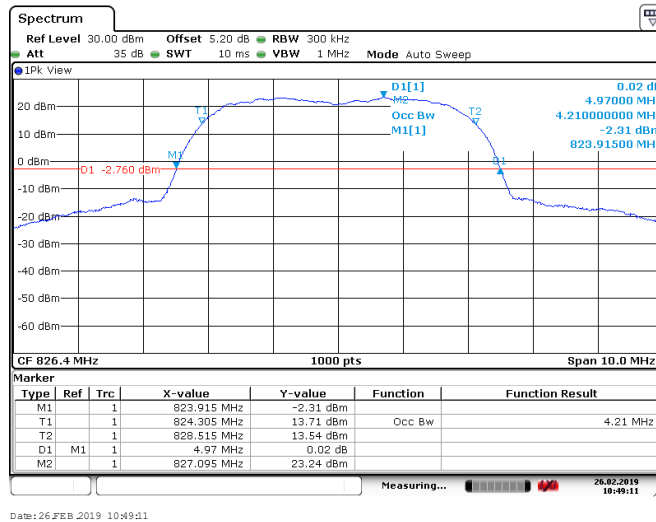
### Band IV\_1413



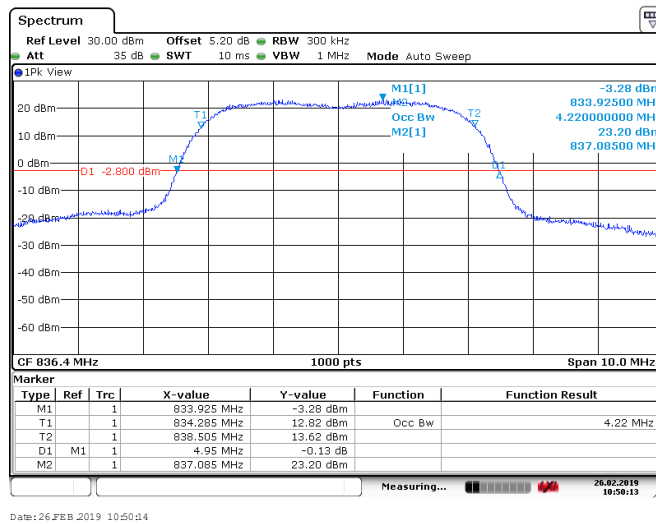
Date: 20 MAR 2019 09:36:49

### Band IV\_1513

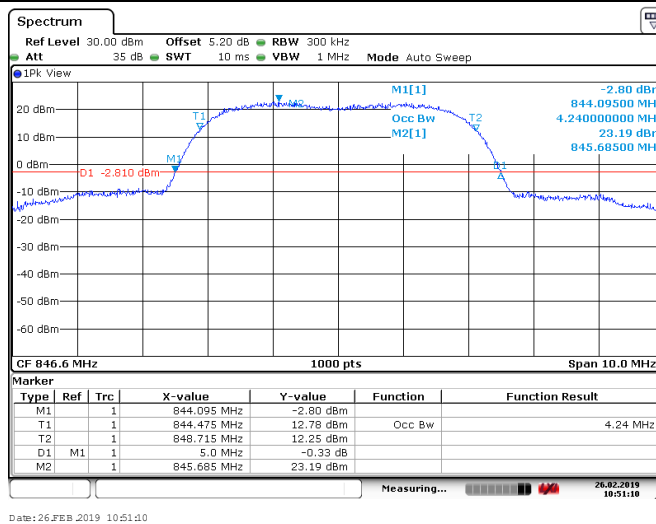
### BAND V\_UMTS/TM1



### Band V\_4132

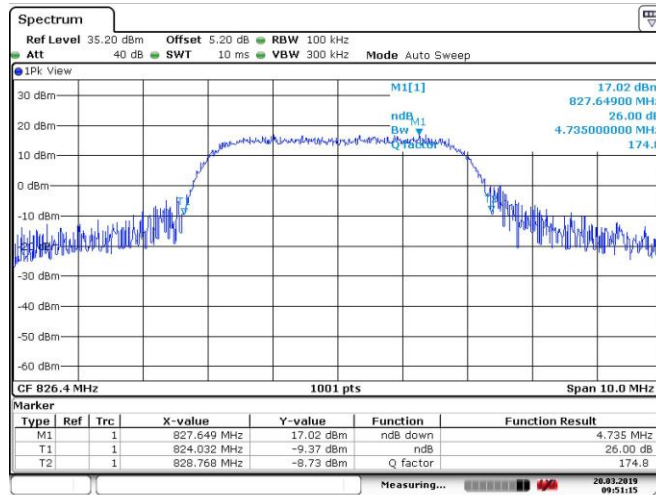


### Band V\_4182



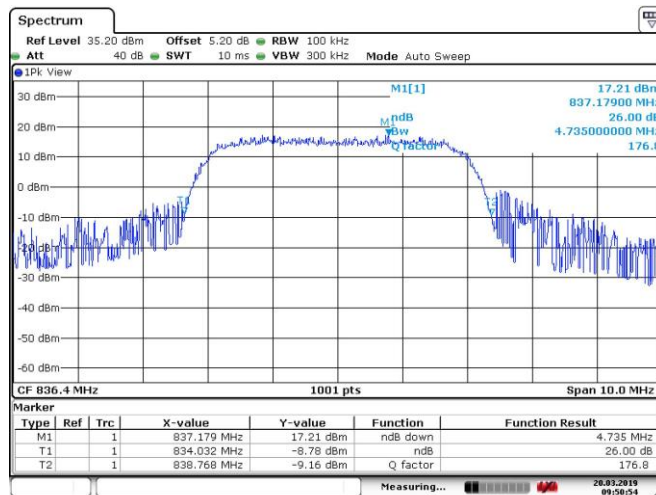
### Band V\_4233

### BAND V\_UMTS/TM2



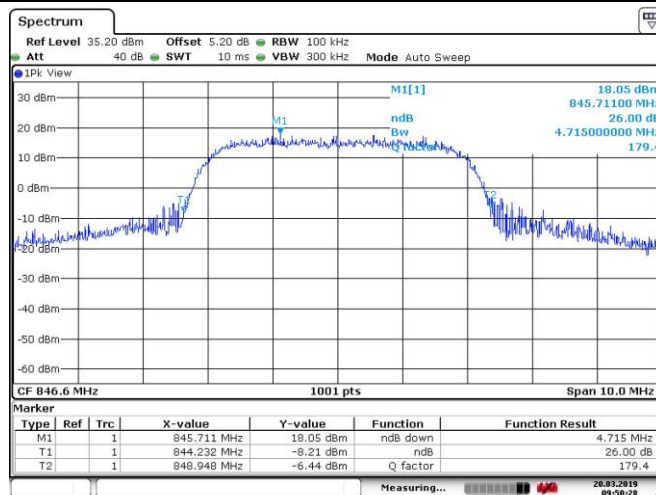
Date: 20 MAR 2019 09:51:16

### Band V\_4132



Date: 20 MAR 2019 09:50:54

### Band V\_4182

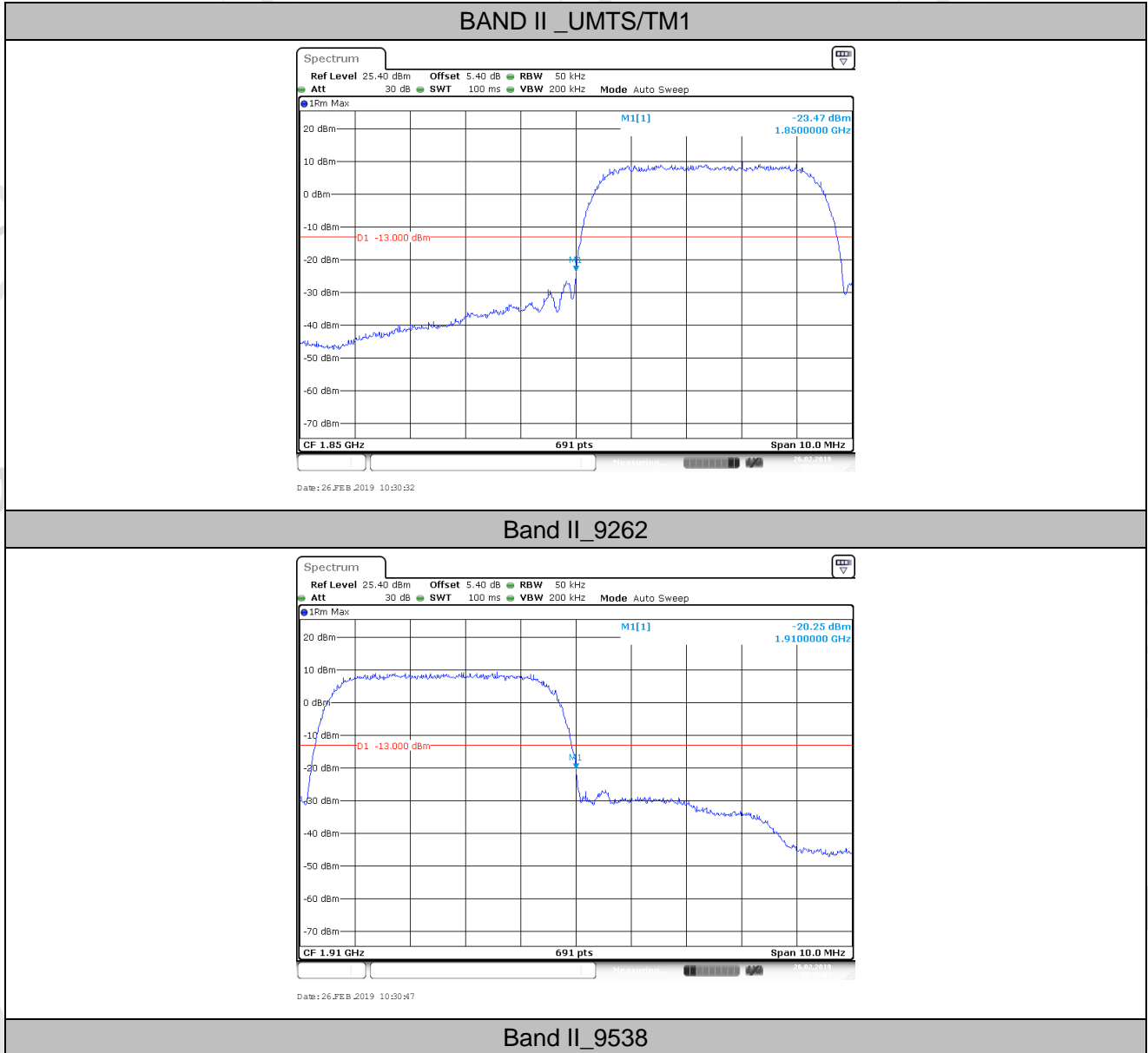


Date: 20 MAR 2019 09:50:29

### Band V\_4233

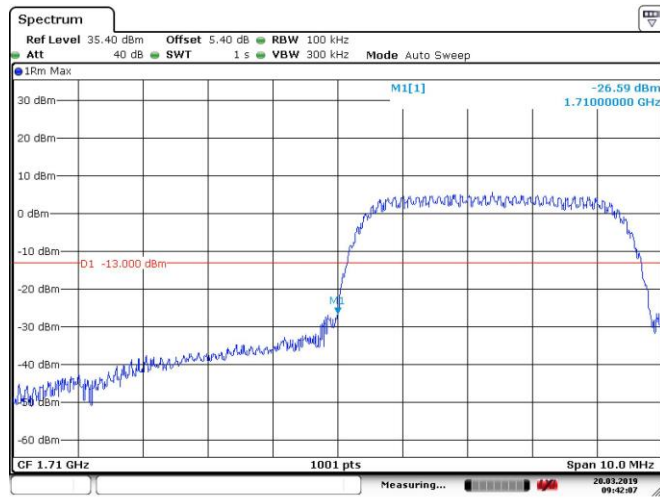
## 9. Band Edge Compliance

### 9.1. Test Plots





### BAND II \_UMTS/TM2



Date: 20 MAR 2019 09:42:07

### Band II\_9262

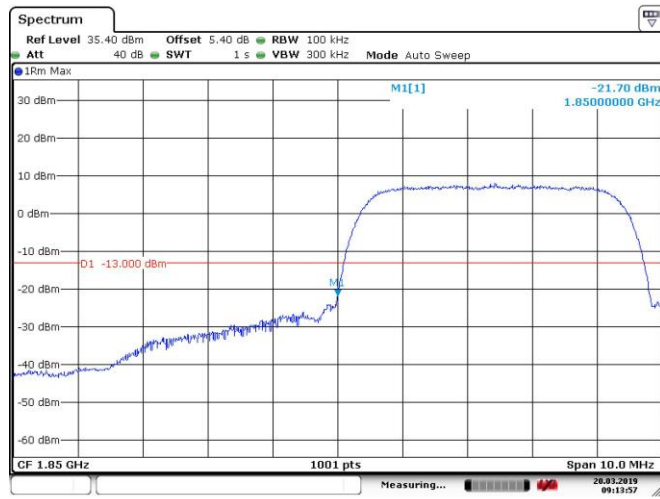


Date: 20 MAR 2019 09:41:43

### Band II\_9538



### BAND IV\_UMTS/TM1



Date: 20 MAR 2019 09:13:57

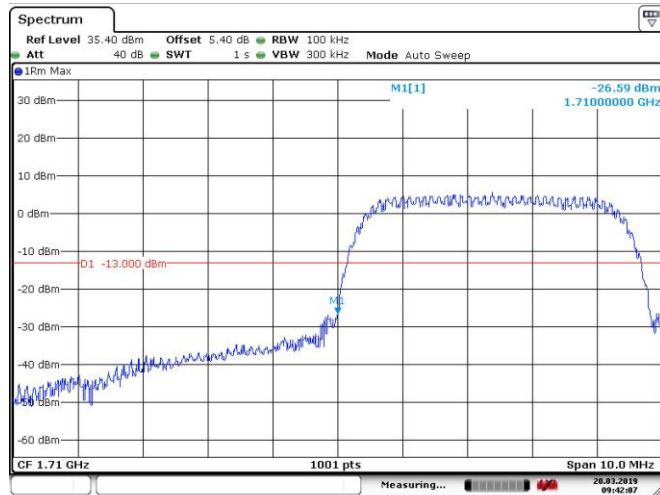
### Band IV\_1312



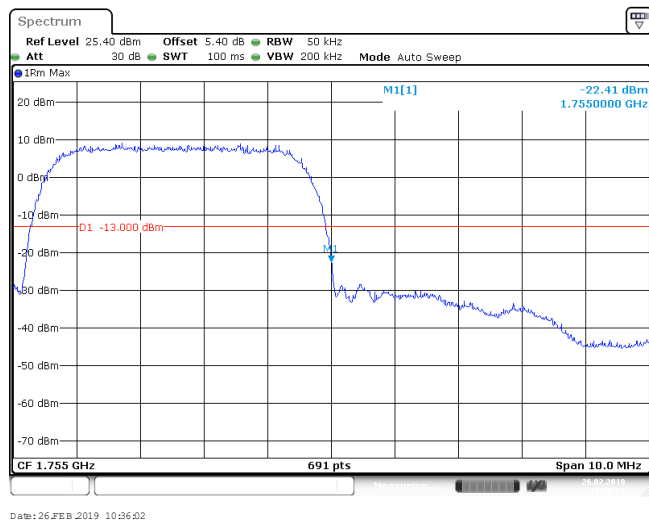
Date: 20 MAR 2019 09:17:43

### Band IV\_1513

### BAND IV \_UMTS/TM2

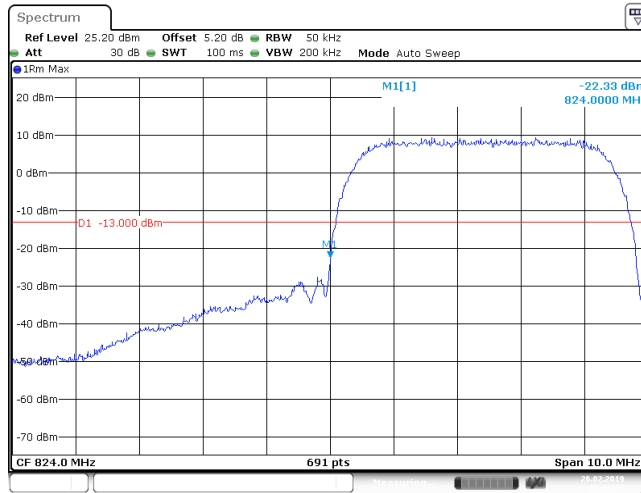


### Band IV\_1312



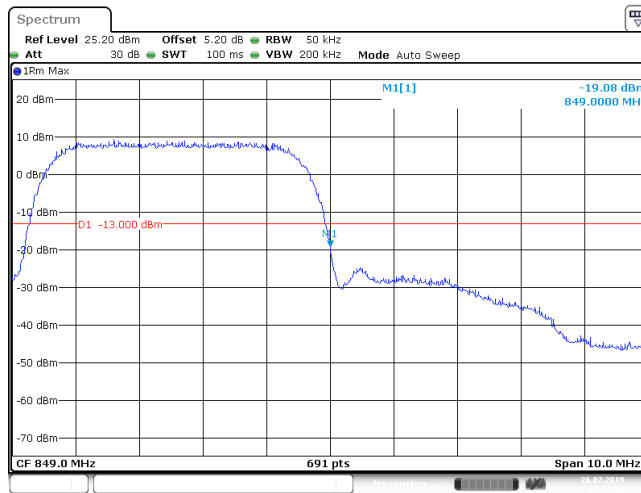
### Band IV\_1513

### BAND V\_UMTS/TM1



Date: 26\_FEB\_2019 10:41:35

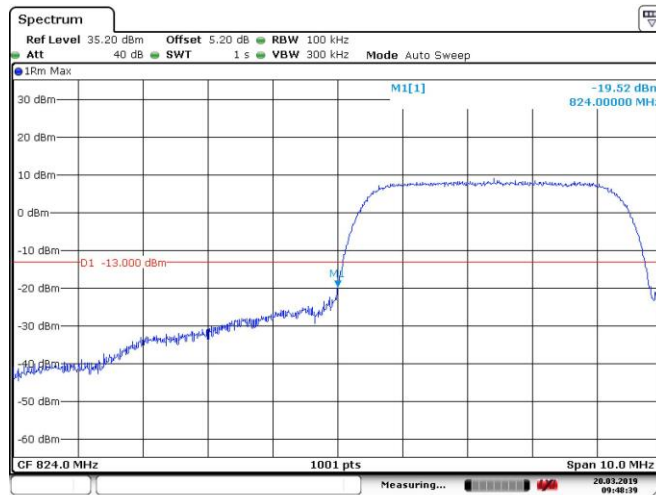
### Band V\_4132



Date: 26\_FEB\_2019 10:41:50

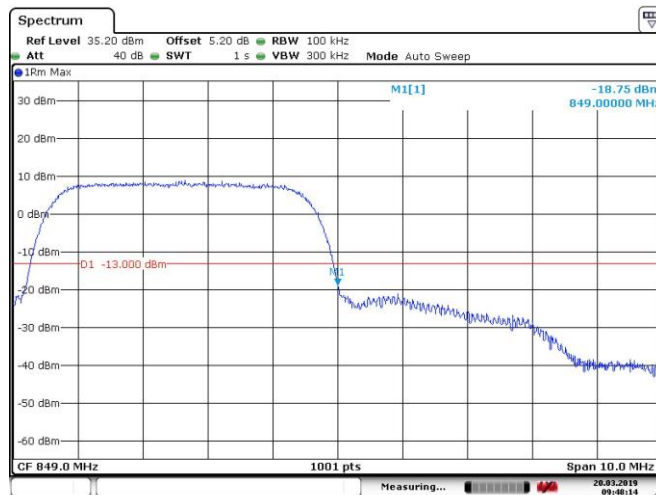
### Band V\_4233

### BAND V\_UMTS/TM2



Date: 20 MAR 2019 09:48:39

### Band V\_4132



Date: 20 MAR 2019 09:48:15

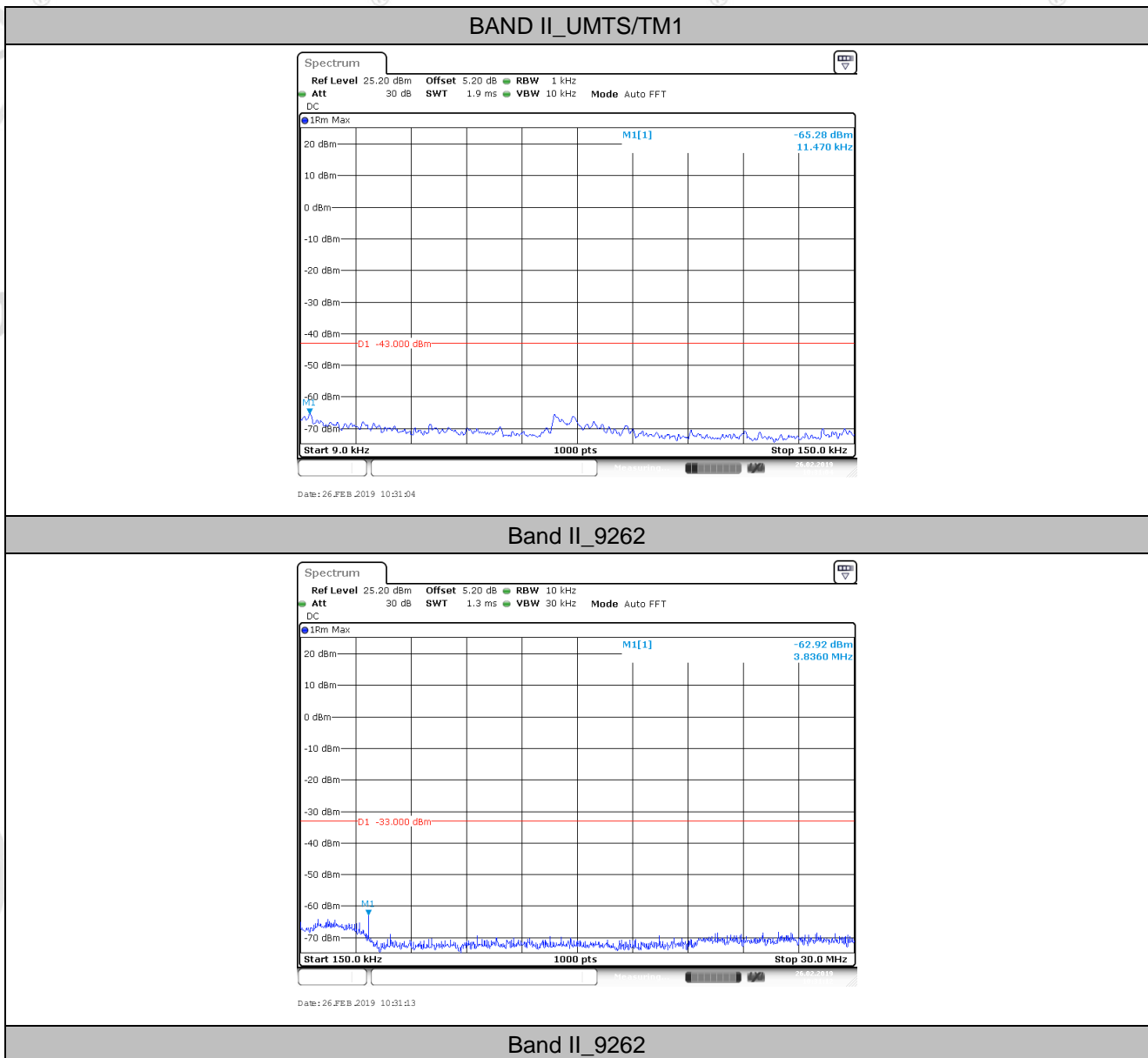
### Band V\_4233

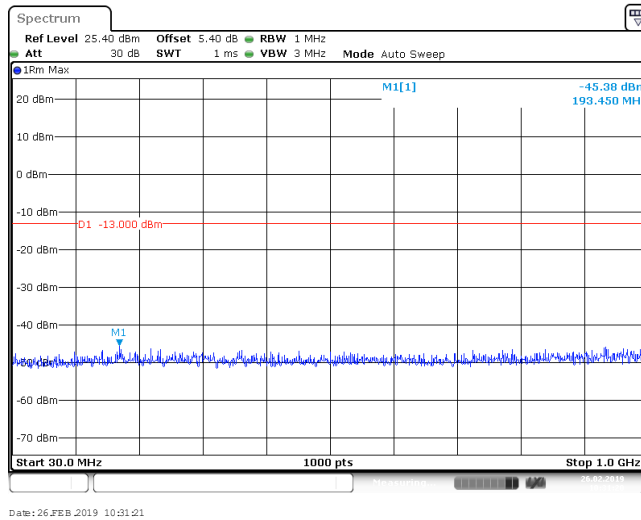
## 10. Spurious Emission at Antenna Terminal

Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k * (Span / RBW)$ " with  $k$  between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

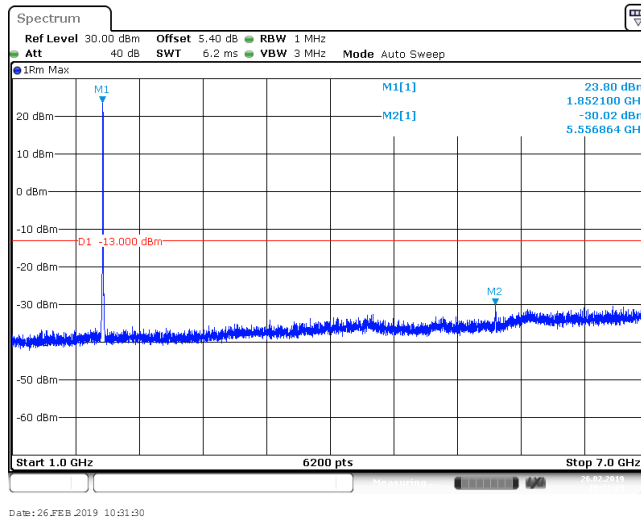
Remark2: only the worst case data displayed in this report.

### 10.1. Test Plots

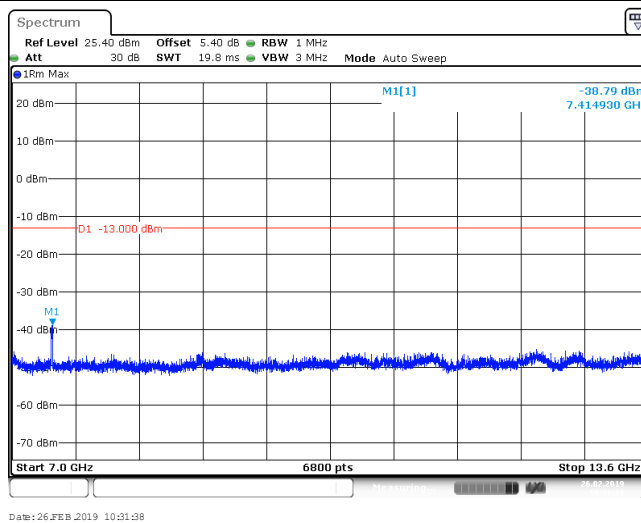




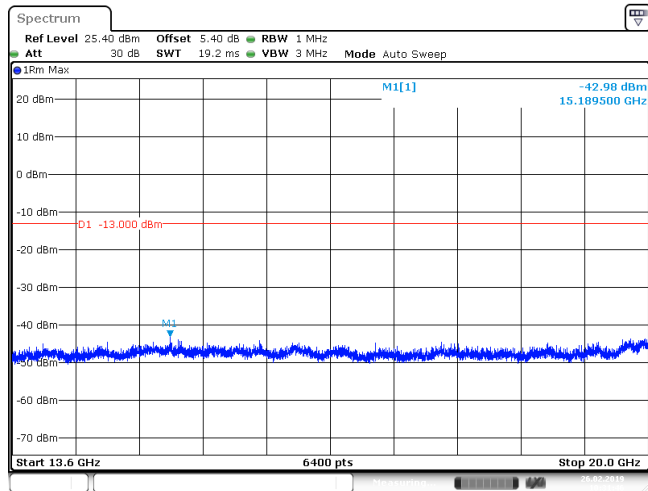
Band II\_9262



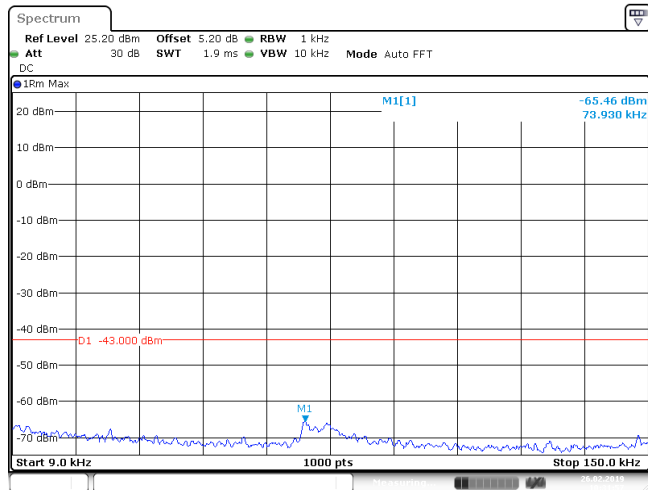
Band II\_9262



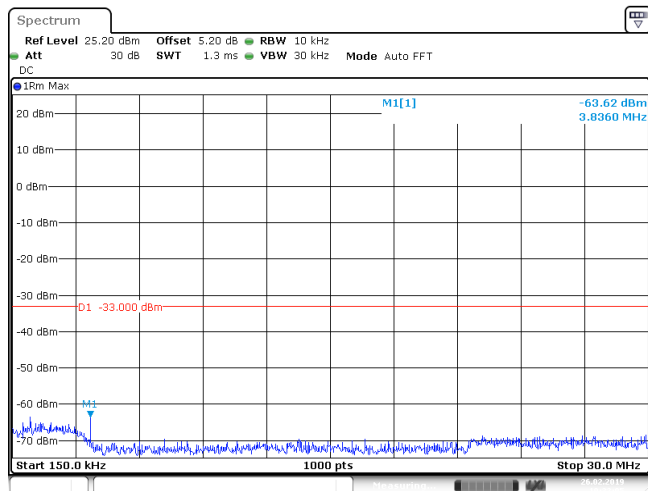
Band II\_9262



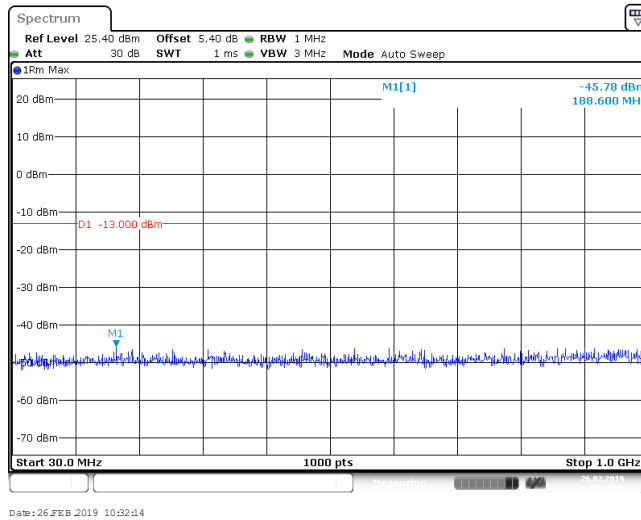
Band II\_9262



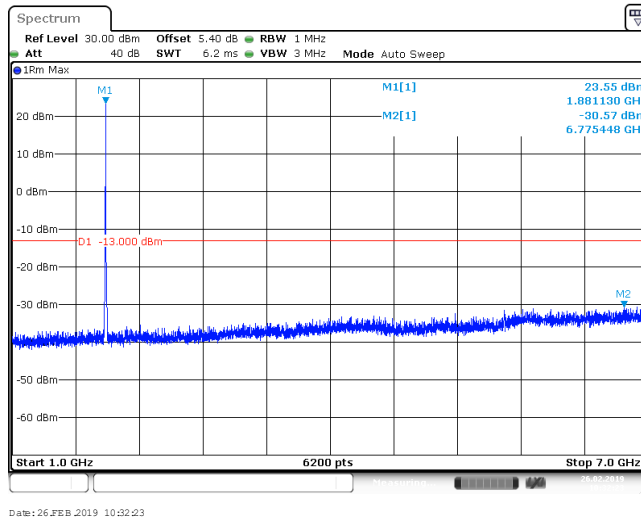
Band II\_9400



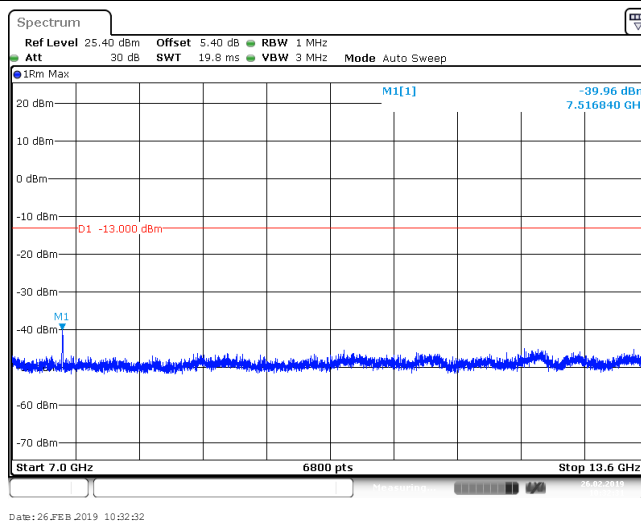
Band II\_9400



Band II\_9400

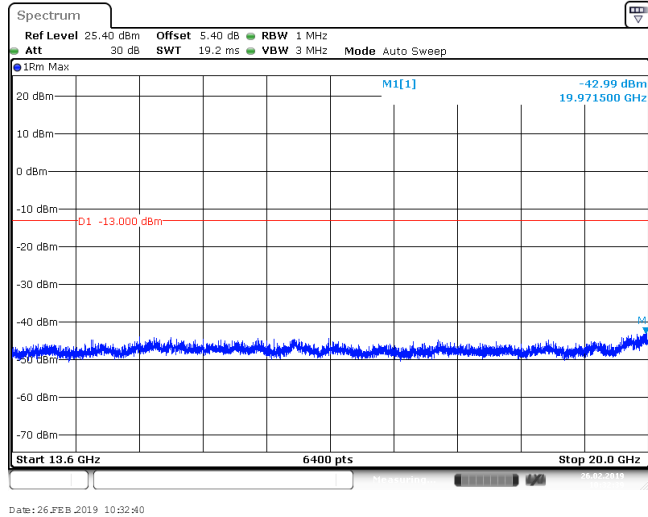


Band II\_9400

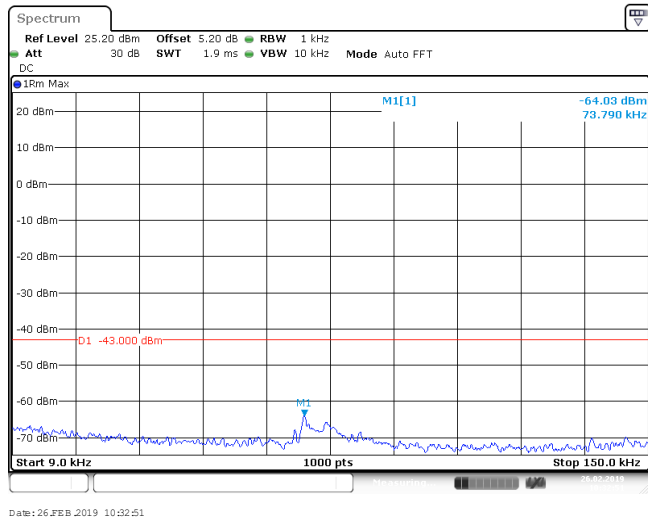


Band II\_9400

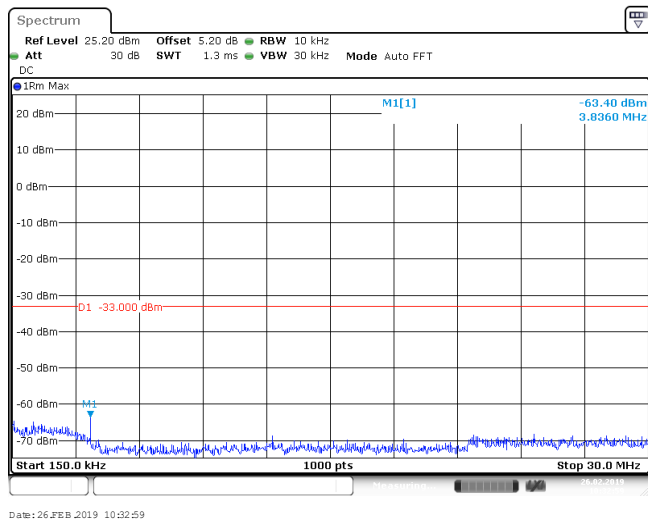




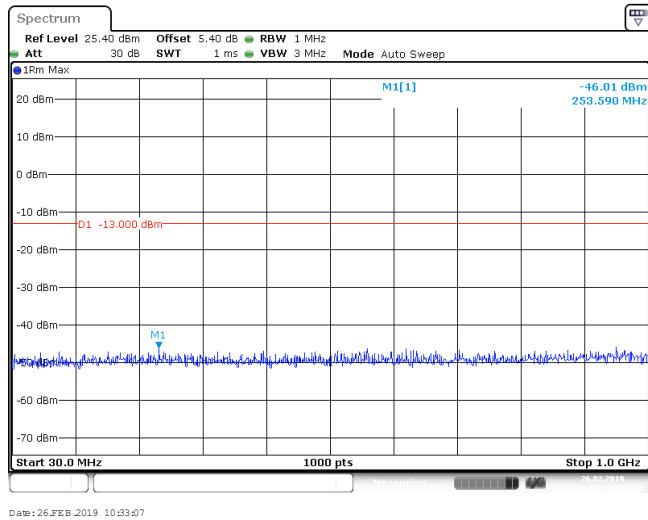
Band II\_9400



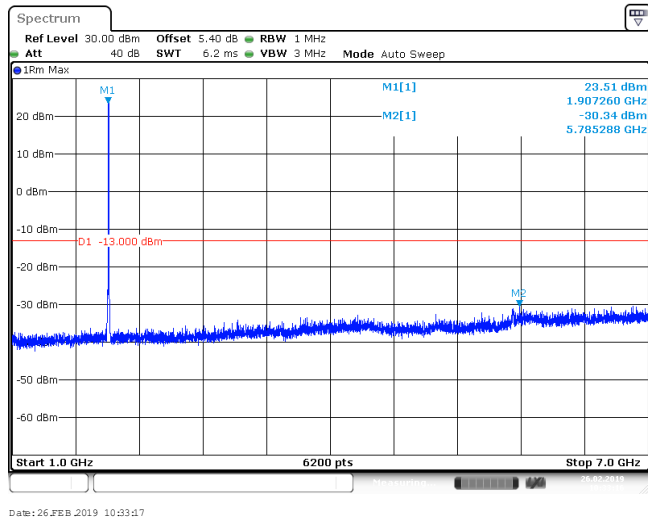
Band II\_9538



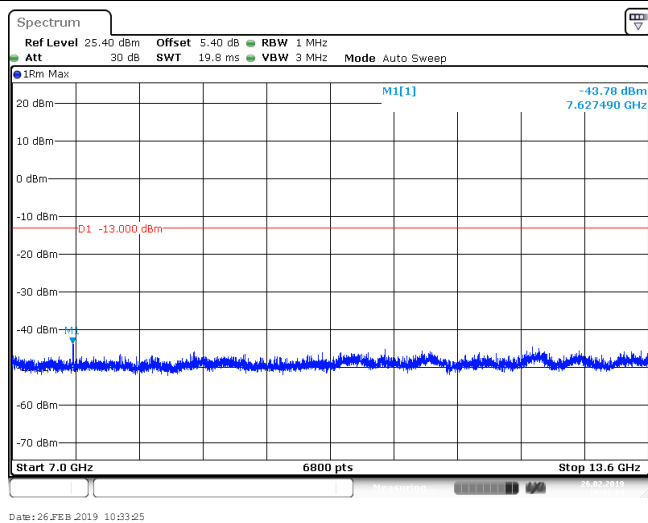
Band II\_9538



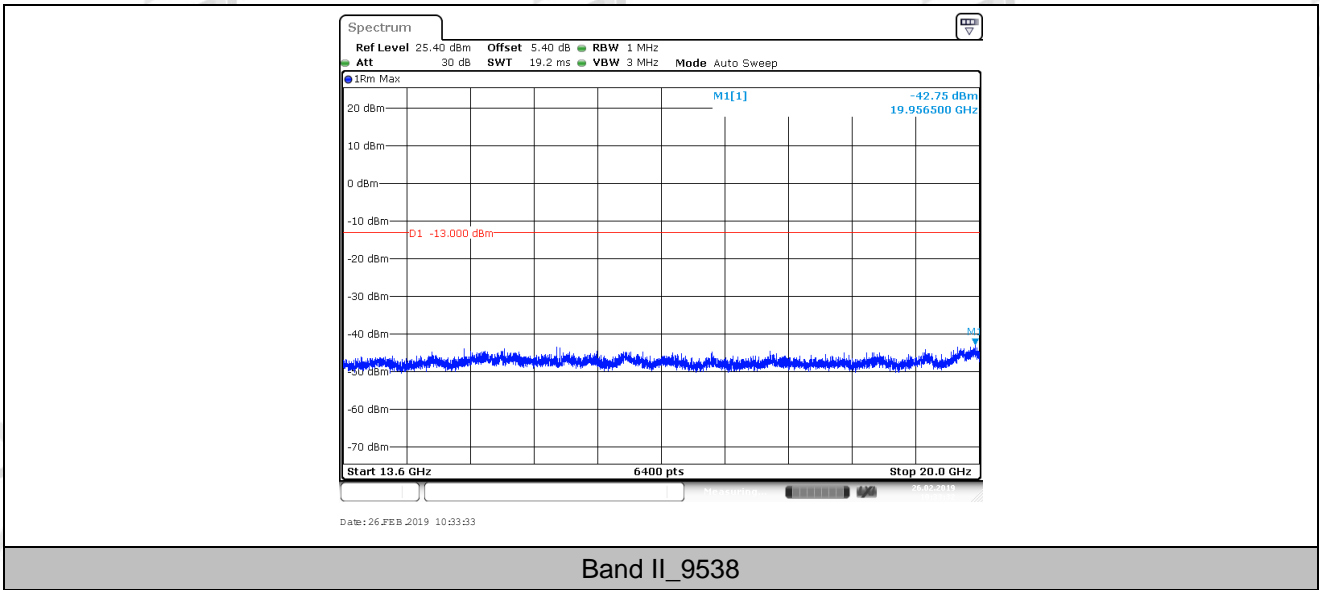
Band II\_9538



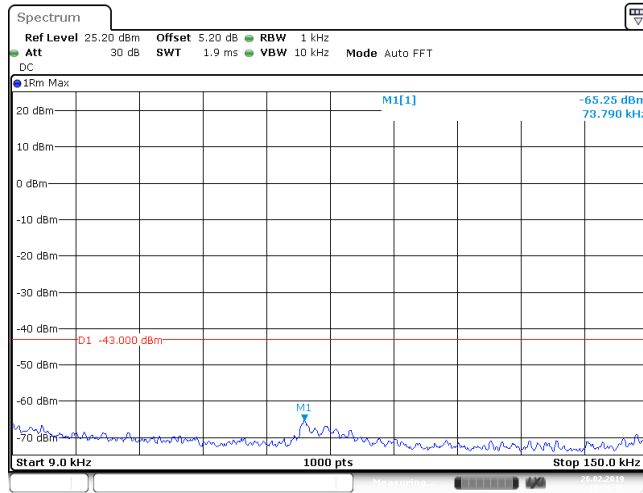
Band II\_9538



Band II\_9538

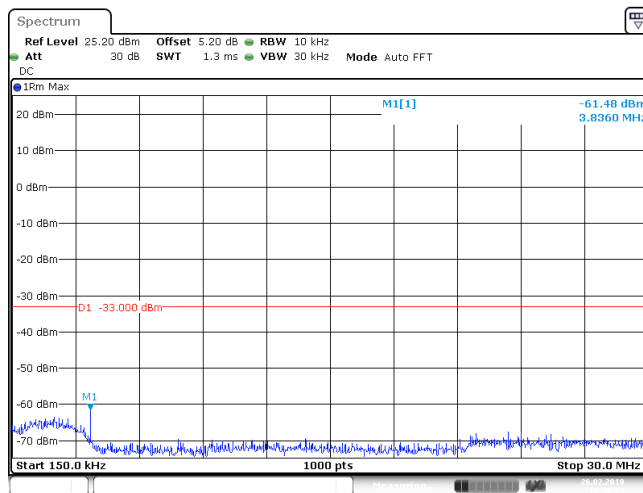


BAND IV\_UMTS/TM1



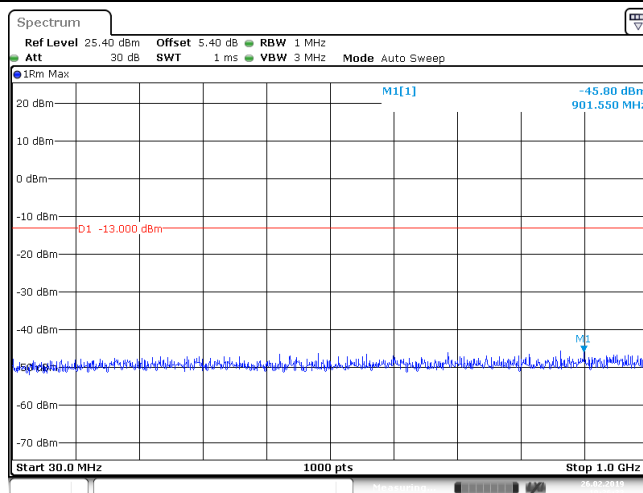
Date: 26.FEB.2019 10:36:17

Band IV\_1312



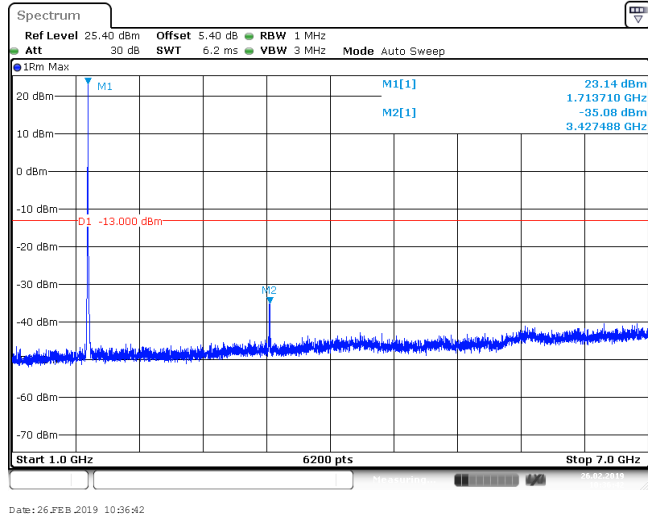
Date: 26.FEB.2019 10:36:25

Band IV\_1312

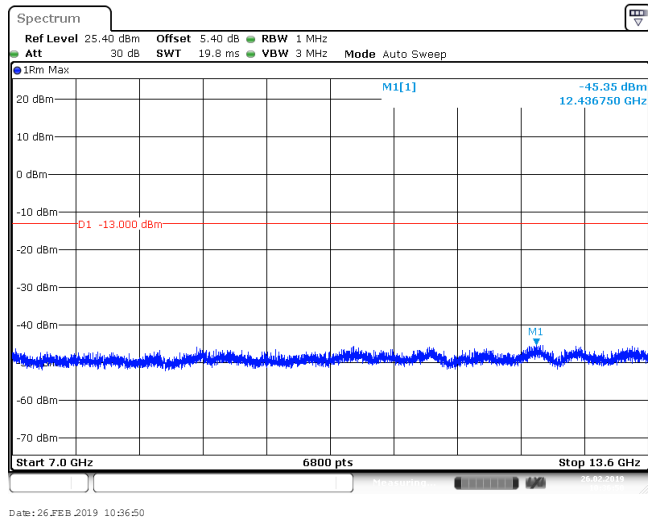


Date: 26.FEB.2019 10:36:33

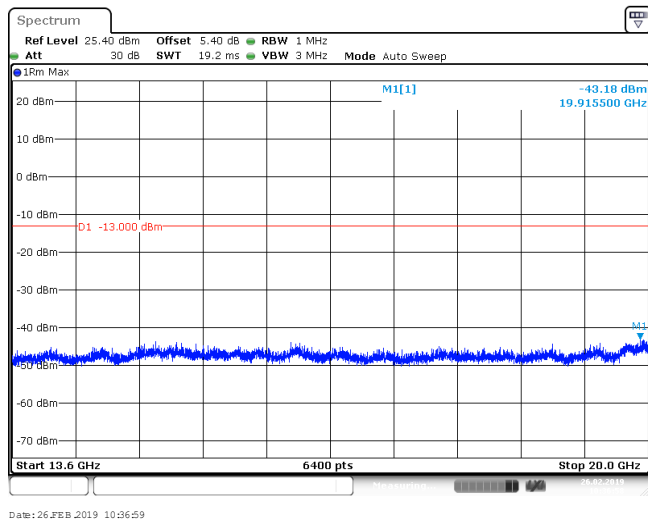
Band IV\_1312



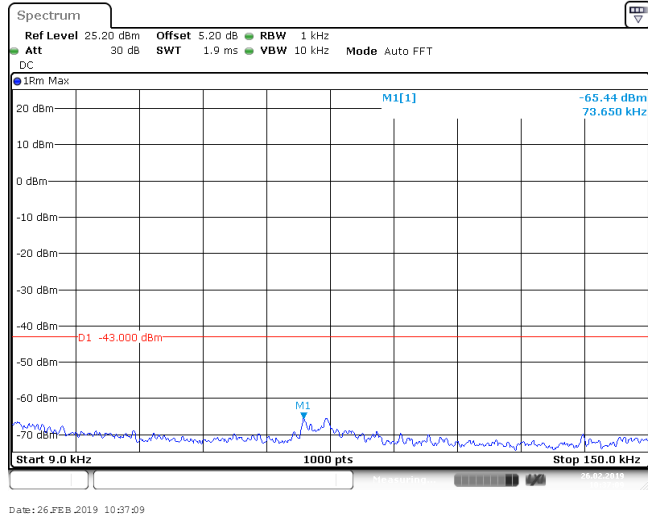
Band IV\_1312



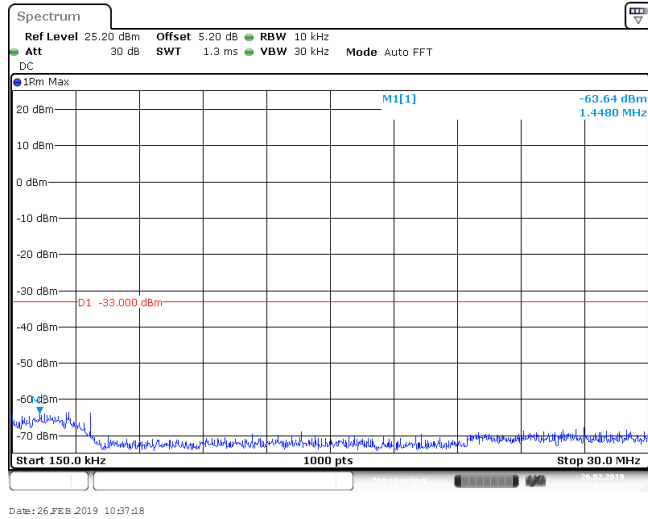
Band IV\_1312



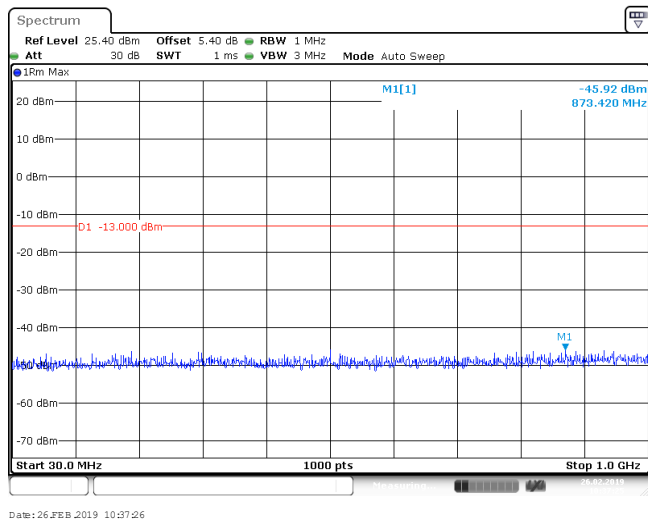
Band IV\_1312



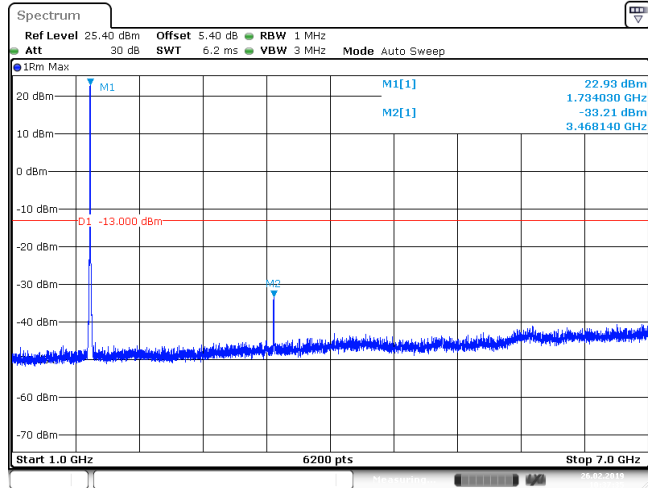
Band IV\_1413



Band IV\_1413

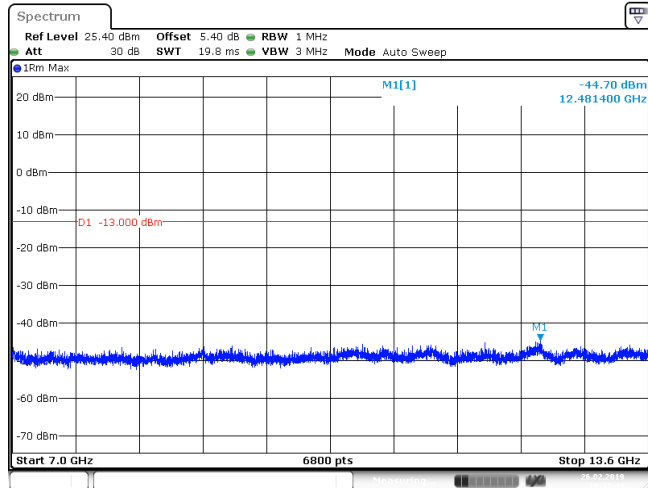


Band IV\_1413



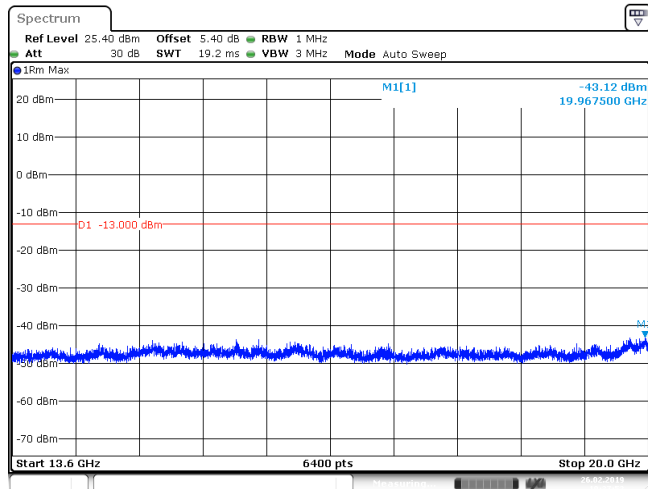
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Band IV\_1413



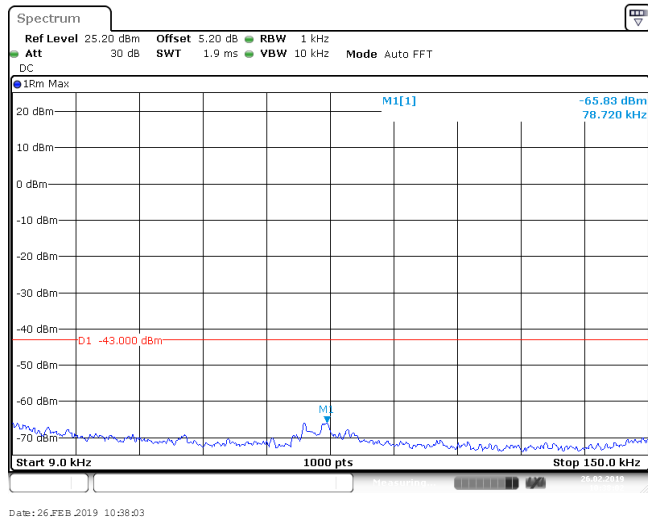
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Band IV\_1413

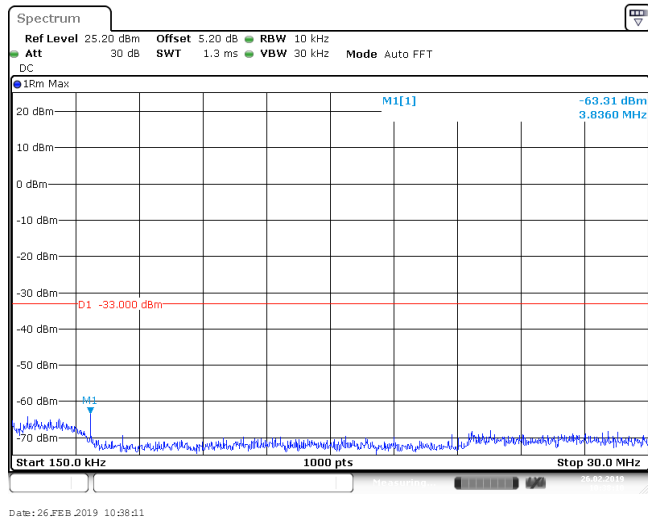


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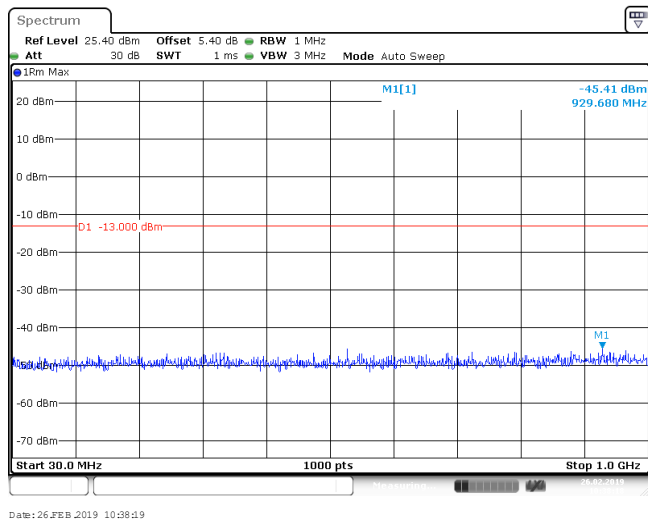
Band IV\_1413



Band IV\_1513

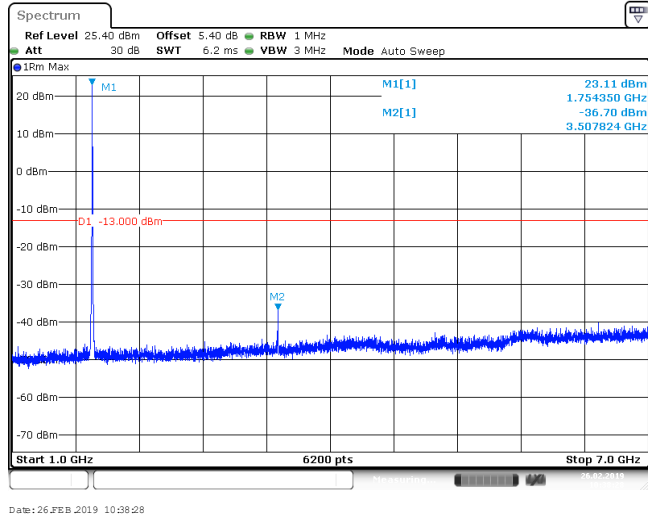


Band IV\_1513

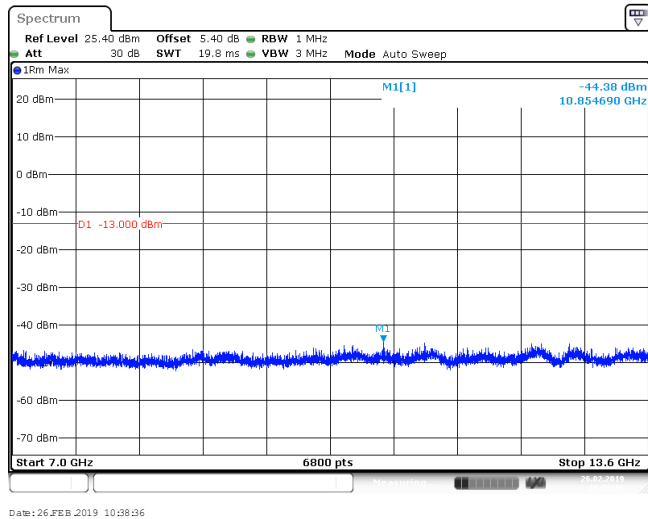


Band IV\_1513

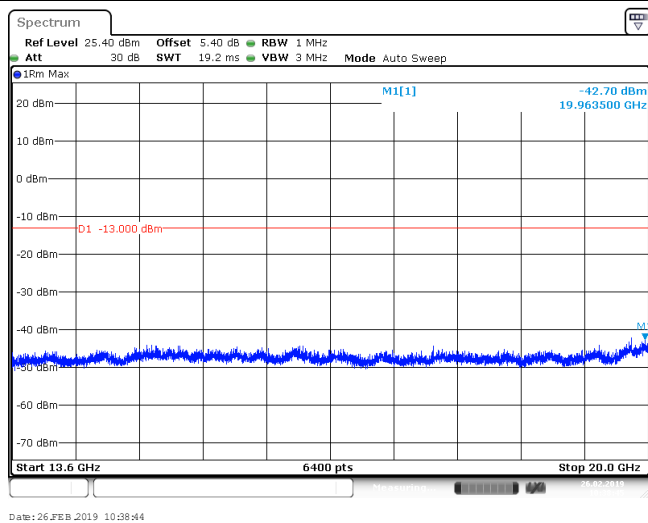




Band IV\_1513

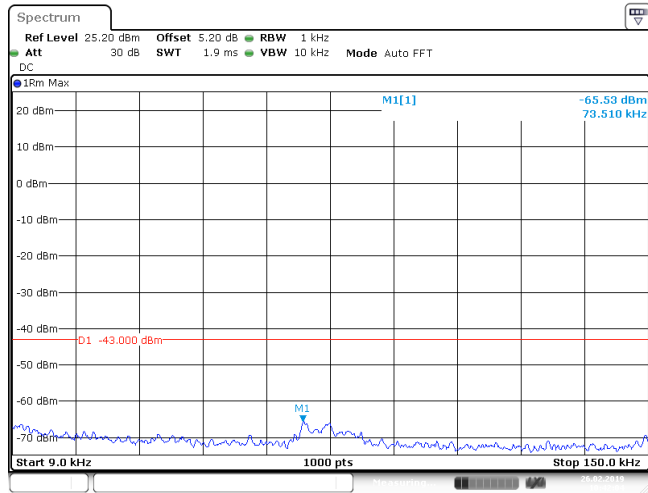


Band IV\_1513



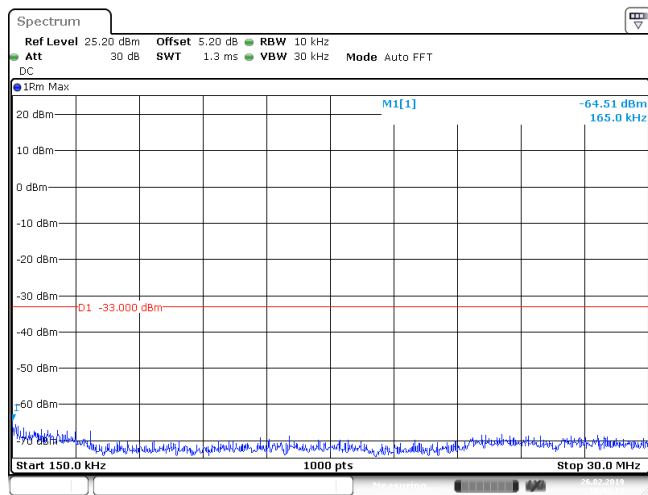
Band IV\_1513

### BAND V\_UMTS/TM1



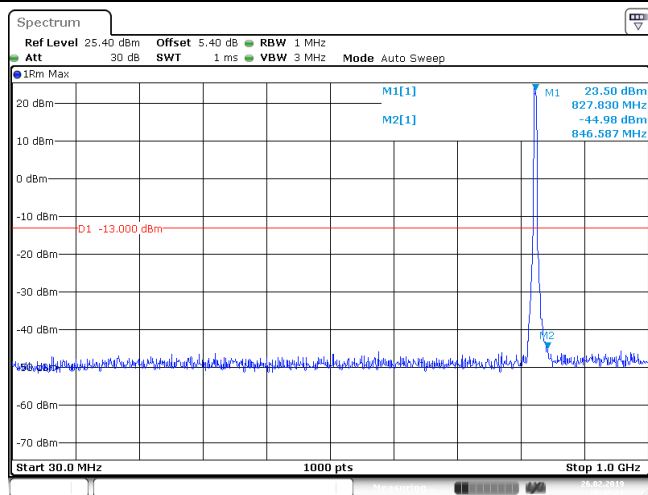
Date: 26.FEB.2019 10:42:04

### Band V\_4132



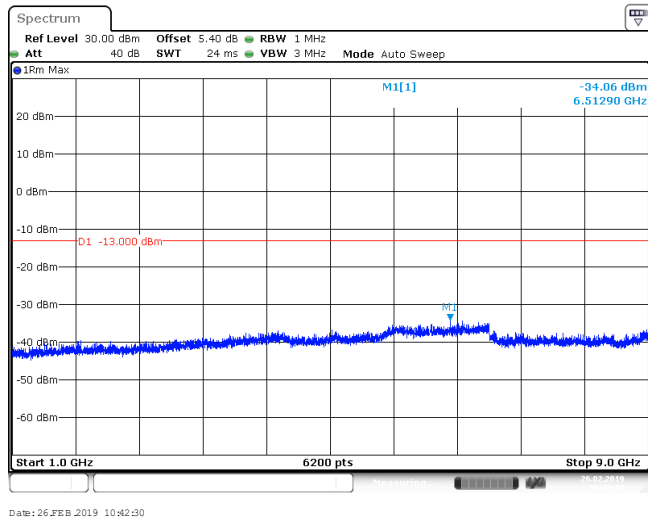
Date: 26.FEB.2019 10:42:13

### Band V\_4132

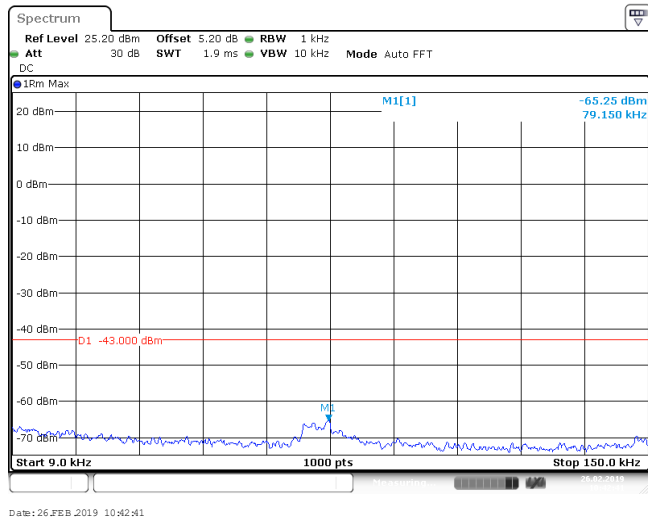


Date: 26.FEB.2019 10:42:22

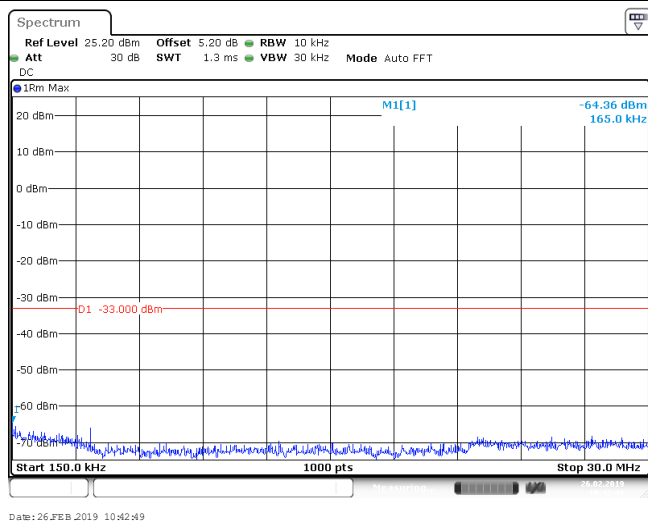
### Band V\_4132



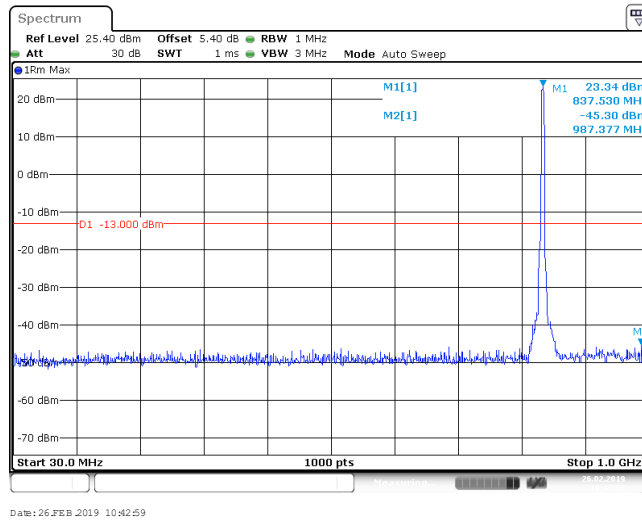
Band V\_4132



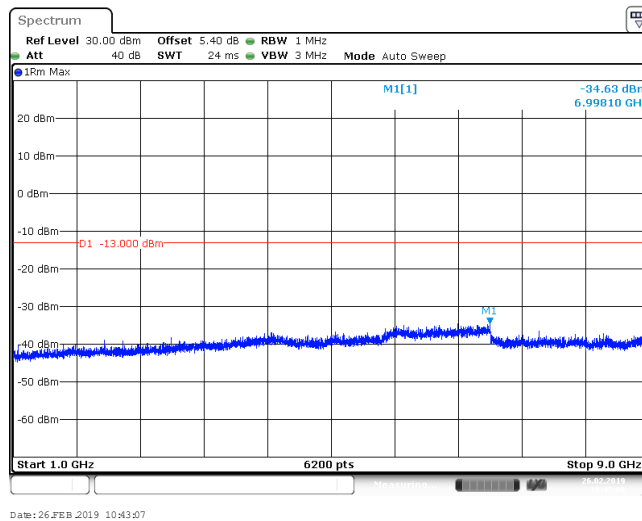
Band V\_4182



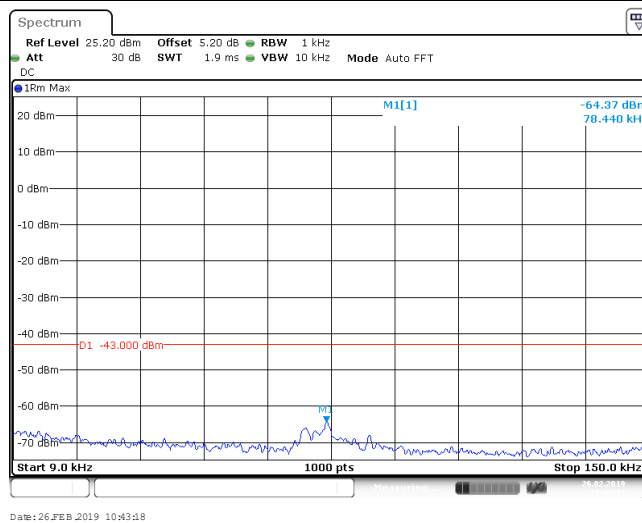
Band V\_4182



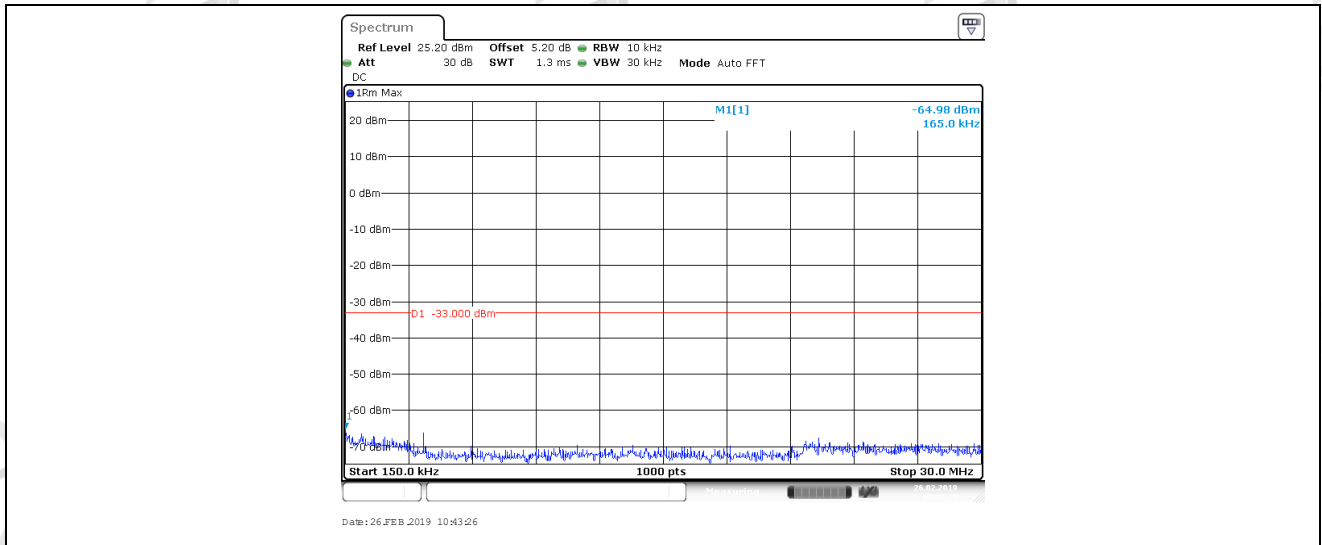
Band V\_4182



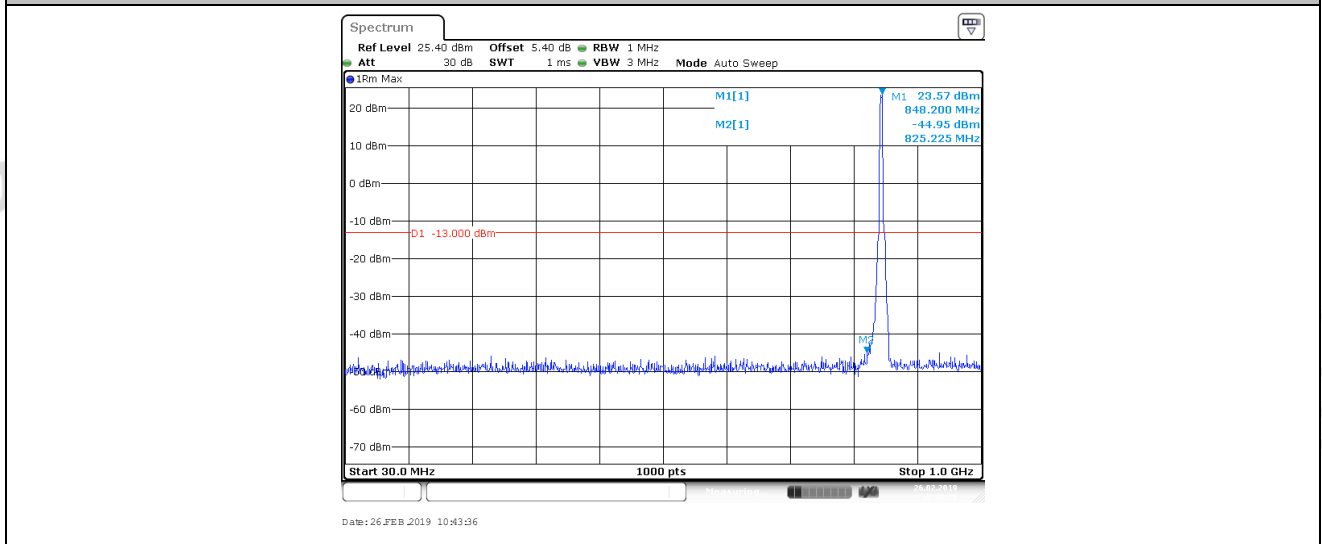
Band V\_4182



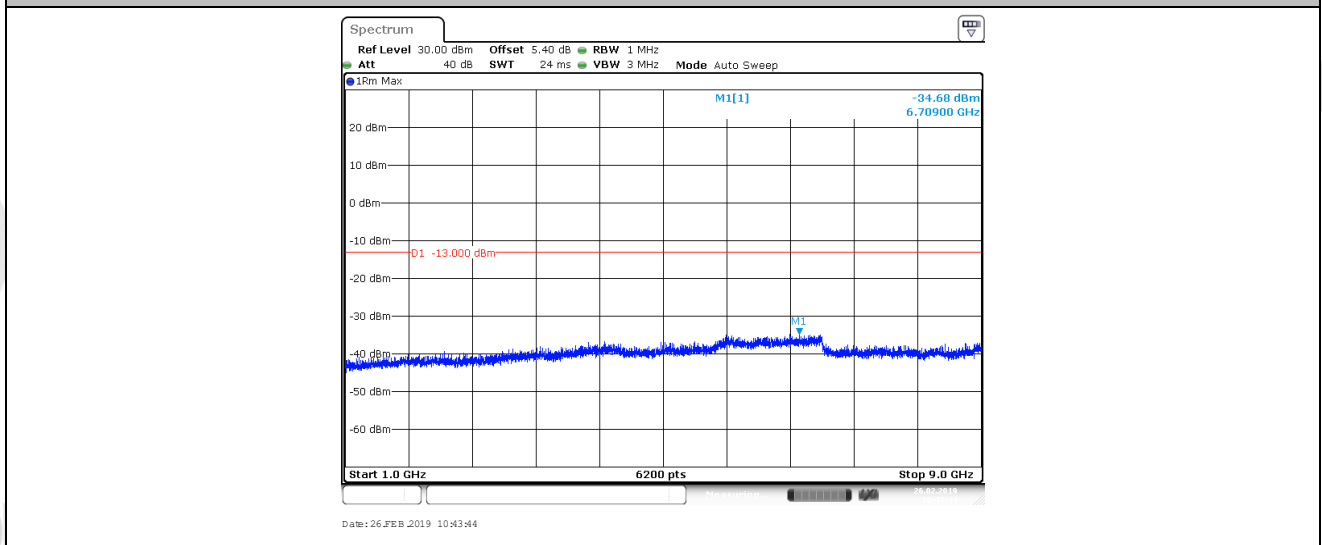
Band V\_4233



Band V\_4233



Band V\_4233



Band V\_4233

## 11. Frequency Stability

### 11.1. Frequency Vs Voltage

Voltage								
BAND	Test Mode	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	TM1	9262	VL	TN	-1.66	-0.000896	±2.5	PASS
Band II	TM1	9262	VN	TN	-2.27	-0.001224	±2.5	PASS
Band II	TM1	9262	VH	TN	-1.73	-0.000934	±2.5	PASS
Band II	TM1	9400	VL	TN	-1.49	-0.000795	±2.5	PASS
Band II	TM1	9400	VN	TN	-0.90	-0.000479	±2.5	PASS
Band II	TM1	9400	VH	TN	-1.41	-0.000749	±2.5	PASS
Band II	TM1	9538	VL	TN	-1.47	-0.000772	±2.5	PASS
Band II	TM1	9538	VN	TN	0.01	0.000007	±2.5	PASS
Band II	TM1	9538	VH	TN	1.15	0.000604	±2.5	PASS
Band IV	TM1	1312	VL	TN	-2.16	-0.001261	±2.5	PASS
Band IV	TM1	1312	VN	TN	-1.79	-0.001044	±2.5	PASS
Band IV	TM1	1312	VH	TN	-0.49	-0.000284	±2.5	PASS
Band IV	TM1	1413	VL	TN	-1.27	-0.000731	±2.5	PASS
Band IV	TM1	1413	VN	TN	-0.69	-0.000400	±2.5	PASS
Band IV	TM1	1413	VH	TN	-1.37	-0.000788	±2.5	PASS
Band IV	TM1	1513	VL	TN	0.42	0.000241	±2.5	PASS
Band IV	TM1	1513	VN	TN	0.02	0.000012	±2.5	PASS
Band IV	TM1	1513	VH	TN	-0.34	-0.000196	±2.5	PASS
Band V	TM1	4132	VL	TN	-0.09	-0.000104	±2.5	PASS
Band V	TM1	4132	VN	TN	0.42	0.000511	±2.5	PASS
Band V	TM1	4132	VH	TN	0.35	0.000424	±2.5	PASS
Band V	TM1	4182	VL	TN	0.12	0.000145	±2.5	PASS
Band V	TM1	4182	VN	TN	-0.62	-0.000744	±2.5	PASS
Band V	TM1	4182	VH	TN	-0.93	-0.001112	±2.5	PASS
Band V	TM1	4233	VL	TN	-0.95	-0.001124	±2.5	PASS
Band V	TM1	4233	VN	TN	-0.18	-0.000211	±2.5	PASS
Band V	TM1	4233	VH	TN	-0.64	-0.000752	±2.5	PASS
Band II	TM2	9262	VL	TN	-9.28	-0.005012	±2.5	PASS
Band II	TM2	9262	VN	TN	-12.57	-0.006786	±2.5	PASS
Band II	TM2	9262	VH	TN	-13.00	-0.007017	±2.5	PASS
Band II	TM2	9400	VL	TN	-10.56	-0.005620	±2.5	PASS
Band II	TM2	9400	VN	TN	-8.74	-0.004648	±2.5	PASS
Band II	TM2	9400	VH	TN	-1.11	-0.000591	±2.5	PASS
Band II	TM2	9538	VL	TN	-10.08	-0.005285	±2.5	PASS
Band II	TM2	9538	VN	TN	14.09	0.007387	±2.5	PASS
Band II	TM2	9538	VH	TN	-5.05	-0.002646	±2.5	PASS
Band IV	TM2	1312	VL	TN	1.91	0.001030	±2.5	PASS

Band IV	TM2	1312	VN	TN	12.72	0.006867	±2.5	PASS
Band IV	TM2	1312	VH	TN	-12.63	-0.006819	±2.5	PASS
Band IV	TM2	1413	VL	TN	-5.92	-0.003148	±2.5	PASS
Band IV	TM2	1413	VN	TN	-5.50	-0.002926	±2.5	PASS
Band IV	TM2	1413	VH	TN	-12.31	-0.006547	±2.5	PASS
Band IV	TM2	1513	VL	TN	12.95	0.006789	±2.5	PASS
Band IV	TM2	1513	VN	TN	3.18	0.001664	±2.5	PASS
Band IV	TM2	1513	VH	TN	14.85	0.007782	±2.5	PASS
Band V	TM2	4132	VL	TN	7.05	0.008530	±2.5	PASS
Band V	TM2	4132	VN	TN	-5.74	-0.006951	±2.5	PASS
Band V	TM2	4132	VH	TN	-7.63	-0.009236	±2.5	PASS
Band V	TM2	4182	VL	TN	-12.70	-0.015178	±2.5	PASS
Band V	TM2	4182	VN	TN	7.25	0.008671	±2.5	PASS
Band V	TM2	4182	VH	TN	12.99	0.015533	±2.5	PASS
Band V	TM2	4233	VL	TN	4.18	0.004937	±2.5	PASS
Band V	TM2	4233	VN	TN	9.54	0.011263	±2.5	PASS
Band V	TM2	4233	VH	TN	0.94	0.001105	±2.5	PASS



## 11.2. Frequency Vs Temperature

Temperature								
BAND	Test Mode	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	TM1	9262	VN	-30	-2.64	-0.001425	±2.5	PASS
Band II	TM1	9262	VN	-20	-1.90	-0.001027	±2.5	PASS
Band II	TM1	9262	VN	-10	-1.54	-0.000834	±2.5	PASS
Band II	TM1	9262	VN	0	-0.93	-0.000502	±2.5	PASS
Band II	TM1	9262	VN	10	-2.27	-0.001224	±2.5	PASS
Band II	TM1	9262	VN	20	-2.16	-0.001166	±2.5	PASS
Band II	TM1	9262	VN	30	-2.63	-0.001421	±2.5	PASS
Band II	TM1	9262	VN	40	-1.58	-0.000853	±2.5	PASS
Band II	TM1	9262	VN	50	-1.62	-0.000873	±2.5	PASS
Band II	TM1	9400	VN	-30	-1.26	-0.000670	±2.5	PASS
Band II	TM1	9400	VN	-20	-0.65	-0.000346	±2.5	PASS
Band II	TM1	9400	VN	-10	-1.05	-0.000559	±2.5	PASS
Band II	TM1	9400	VN	0	-1.33	-0.000708	±2.5	PASS
Band II	TM1	9400	VN	10	-0.46	-0.000243	±2.5	PASS
Band II	TM1	9400	VN	20	-1.29	-0.000689	±2.5	PASS
Band II	TM1	9400	VN	30	-0.26	-0.000137	±2.5	PASS
Band II	TM1	9400	VN	40	-0.52	-0.000278	±2.5	PASS
Band II	TM1	9400	VN	50	-0.39	-0.000205	±2.5	PASS
Band II	TM1	9538	VN	-30	-0.62	-0.000326	±2.5	PASS
Band II	TM1	9538	VN	-20	0.13	0.000067	±2.5	PASS
Band II	TM1	9538	VN	-10	-0.13	-0.000067	±2.5	PASS
Band II	TM1	9538	VN	0	0.25	0.000131	±2.5	PASS
Band II	TM1	9538	VN	10	0.44	0.000229	±2.5	PASS
Band II	TM1	9538	VN	20	-0.69	-0.000360	±2.5	PASS
Band II	TM1	9538	VN	30	-0.69	-0.000364	±2.5	PASS
Band II	TM1	9538	VN	40	-0.41	-0.000214	±2.5	PASS
Band II	TM1	9538	VN	50	-0.23	-0.000120	±2.5	PASS
Band IV	TM1	1312	VN	-30	-1.88	-0.001099	±2.5	PASS
Band IV	TM1	1312	VN	-20	-2.37	-0.001383	±2.5	PASS
Band IV	TM1	1312	VN	-10	-2.17	-0.001266	±2.5	PASS
Band IV	TM1	1312	VN	0	-1.51	-0.000881	±2.5	PASS
Band IV	TM1	1312	VN	10	-1.86	-0.001086	±2.5	PASS
Band IV	TM1	1312	VN	20	-2.02	-0.001182	±2.5	PASS
Band IV	TM1	1312	VN	30	-1.68	-0.000982	±2.5	PASS
Band IV	TM1	1312	VN	40	-1.49	-0.000873	±2.5	PASS
Band IV	TM1	1312	VN	50	-1.02	-0.000597	±2.5	PASS
Band IV	TM1	1413	VN	-30	-0.12	-0.000070	±2.5	PASS
Band IV	TM1	1413	VN	-20	0.11	0.000066	±2.5	PASS
Band IV	TM1	1413	VN	-10	-1.12	-0.000648	±2.5	PASS
Band IV	TM1	1413	VN	0	1.49	0.000859	±2.5	PASS

Band IV	TM1	1413	VN	10	1.22	0.000706	±2.5	PASS
Band IV	TM1	1413	VN	20	0.34	0.000194	±2.5	PASS
Band IV	TM1	1413	VN	30	0.94	0.000541	±2.5	PASS
Band IV	TM1	1413	VN	40	0.58	0.000334	±2.5	PASS
Band IV	TM1	1413	VN	50	2.52	0.001453	±2.5	PASS
Band IV	TM1	1513	VN	-30	0.04	0.000020	±2.5	PASS
Band IV	TM1	1513	VN	-20	-0.81	-0.000461	±2.5	PASS
Band IV	TM1	1513	VN	-10	-0.33	-0.000188	±2.5	PASS
Band IV	TM1	1513	VN	0	0.31	0.000180	±2.5	PASS
Band IV	TM1	1513	VN	10	-0.11	-0.000065	±2.5	PASS
Band IV	TM1	1513	VN	20	-0.04	-0.000020	±2.5	PASS
Band IV	TM1	1513	VN	30	-0.95	-0.000543	±2.5	PASS
Band IV	TM1	1513	VN	40	0.02	0.000012	±2.5	PASS
Band IV	TM1	1513	VN	50	0.26	0.000151	±2.5	PASS
Band V	TM1	4132	VN	-30	-0.34	-0.000407	±2.5	PASS
Band V	TM1	4132	VN	-20	-0.02	-0.000026	±2.5	PASS
Band V	TM1	4132	VN	-10	0.05	0.000061	±2.5	PASS
Band V	TM1	4132	VN	0	0.26	0.000312	±2.5	PASS
Band V	TM1	4132	VN	10	0.21	0.000251	±2.5	PASS
Band V	TM1	4132	VN	20	-0.01	-0.000009	±2.5	PASS
Band V	TM1	4132	VN	30	-0.11	-0.000138	±2.5	PASS
Band V	TM1	4132	VN	40	-0.29	-0.000346	±2.5	PASS
Band V	TM1	4132	VN	50	-0.37	-0.000450	±2.5	PASS
Band V	TM1	4182	VN	-30	0.11	0.000128	±2.5	PASS
Band V	TM1	4182	VN	-20	-0.11	-0.000137	±2.5	PASS
Band V	TM1	4182	VN	-10	-0.28	-0.000334	±2.5	PASS
Band V	TM1	4182	VN	0	-0.82	-0.000975	±2.5	PASS
Band V	TM1	4182	VN	10	-0.28	-0.000334	±2.5	PASS
Band V	TM1	4182	VN	20	-0.14	-0.000171	±2.5	PASS
Band V	TM1	4182	VN	30	-0.41	-0.000487	±2.5	PASS
Band V	TM1	4182	VN	40	0.19	0.000231	±2.5	PASS
Band V	TM1	4182	VN	50	-0.49	-0.000582	±2.5	PASS
Band V	TM1	4233	VN	-30	-0.59	-0.000693	±2.5	PASS
Band V	TM1	4233	VN	-20	-0.11	-0.000135	±2.5	PASS
Band V	TM1	4233	VN	-10	-0.07	-0.000084	±2.5	PASS
Band V	TM1	4233	VN	0	-0.03	-0.000034	±2.5	PASS
Band V	TM1	4233	VN	10	-0.45	-0.000532	±2.5	PASS
Band V	TM1	4233	VN	20	-0.06	-0.000068	±2.5	PASS
Band V	TM1	4233	VN	30	0.09	0.000101	±2.5	PASS
Band V	TM1	4233	VN	40	-0.35	-0.000414	±2.5	PASS
Band V	TM1	4233	VN	50	-0.29	-0.000338	±2.5	PASS
Band II	TM2	9262	VN	-30	-11.21	-0.006050	±2.5	PASS
Band II	TM2	9262	VN	-20	-14.69	-0.007932	±2.5	PASS
Band II	TM2	9262	VN	-10	3.01	0.001624	±2.5	PASS

Band II	TM2	9262	VN	0	-0.69	-0.000372	±2.5	PASS
Band II	TM2	9262	VN	10	12.67	0.006842	±2.5	PASS
Band II	TM2	9262	VN	20	9.97	0.005381	±2.5	PASS
Band II	TM2	9262	VN	30	8.59	0.004637	±2.5	PASS
Band II	TM2	9262	VN	40	-4.03	-0.002173	±2.5	PASS
Band II	TM2	9262	VN	50	-6.70	-0.003618	±2.5	PASS
Band II	TM2	9400	VN	-30	-6.64	-0.003534	±2.5	PASS
Band II	TM2	9400	VN	-20	-7.39	-0.003931	±2.5	PASS
Band II	TM2	9400	VN	-10	8.51	0.004524	±2.5	PASS
Band II	TM2	9400	VN	0	3.77	0.002007	±2.5	PASS
Band II	TM2	9400	VN	10	-4.67	-0.002484	±2.5	PASS
Band II	TM2	9400	VN	20	-8.74	-0.004648	±2.5	PASS
Band II	TM2	9400	VN	30	9.31	0.004951	±2.5	PASS
Band II	TM2	9400	VN	40	-5.91	-0.003145	±2.5	PASS
Band II	TM2	9400	VN	50	-14.58	-0.007758	±2.5	PASS
Band II	TM2	9538	VN	-30	-6.75	-0.003539	±2.5	PASS
Band II	TM2	9538	VN	-20	-13.95	-0.007315	±2.5	PASS
Band II	TM2	9538	VN	-10	-14.26	-0.007478	±2.5	PASS
Band II	TM2	9538	VN	0	8.25	0.004327	±2.5	PASS
Band II	TM2	9538	VN	10	-14.23	-0.007458	±2.5	PASS
Band II	TM2	9538	VN	20	-7.53	-0.003948	±2.5	PASS
Band II	TM2	9538	VN	30	-6.27	-0.003289	±2.5	PASS
Band II	TM2	9538	VN	40	-10.06	-0.005273	±2.5	PASS
Band II	TM2	9538	VN	50	-0.55	-0.000288	±2.5	PASS
Band IV	TM2	1312	VN	-30	6.38	0.007718	±2.5	PASS
Band IV	TM2	1312	VN	-20	3.94	0.004771	±2.5	PASS
Band IV	TM2	1312	VN	-10	-2.96	-0.003582	±2.5	PASS
Band IV	TM2	1312	VN	0	5.70	0.006896	±2.5	PASS
Band IV	TM2	1312	VN	10	-1.30	-0.001577	±2.5	PASS
Band IV	TM2	1312	VN	20	6.79	0.008220	±2.5	PASS
Band IV	TM2	1312	VN	30	11.39	0.013784	±2.5	PASS
Band IV	TM2	1312	VN	40	0.11	0.000129	±2.5	PASS
Band IV	TM2	1312	VN	50	6.78	0.008207	±2.5	PASS
Band IV	TM2	1413	VN	-30	-2.78	-0.003324	±2.5	PASS
Band IV	TM2	1413	VN	-20	0.27	0.000322	±2.5	PASS
Band IV	TM2	1413	VN	-10	-7.47	-0.008928	±2.5	PASS
Band IV	TM2	1413	VN	0	7.49	0.008960	±2.5	PASS
Band IV	TM2	1413	VN	10	-10.94	-0.013077	±2.5	PASS
Band IV	TM2	1413	VN	20	3.56	0.004259	±2.5	PASS
Band IV	TM2	1413	VN	30	3.08	0.003679	±2.5	PASS
Band IV	TM2	1413	VN	40	9.84	0.011764	±2.5	PASS
Band IV	TM2	1413	VN	50	-5.99	-0.007160	±2.5	PASS
Band IV	TM2	1513	VN	-30	-3.29	-0.003883	±2.5	PASS
Band IV	TM2	1513	VN	-20	-6.58	-0.007770	±2.5	PASS

Band IV	TM2	1513	VN	-10	11.49	0.013576	±2.5	PASS
Band IV	TM2	1513	VN	0	8.77	0.010365	±2.5	PASS
Band IV	TM2	1513	VN	10	6.75	0.007969	±2.5	PASS
Band IV	TM2	1513	VN	20	12.57	0.014844	±2.5	PASS
Band IV	TM2	1513	VN	30	-1.75	-0.002064	±2.5	PASS
Band IV	TM2	1513	VN	40	2.17	0.002566	±2.5	PASS
Band IV	TM2	1513	VN	50	6.05	0.007141	±2.5	PASS
Band V	TM2	4132	VN	-30	12.89	0.015597	±2.5	PASS
Band V	TM2	4132	VN	-20	1.51	0.001829	±2.5	PASS
Band V	TM2	4132	VN	-10	2.93	0.003547	±2.5	PASS
Band V	TM2	4132	VN	0	-6.88	-0.008330	±2.5	PASS
Band V	TM2	4132	VN	10	-12.43	-0.015044	±2.5	PASS
Band V	TM2	4132	VN	20	-3.58	-0.004327	±2.5	PASS
Band V	TM2	4132	VN	30	-8.81	-0.010657	±2.5	PASS
Band V	TM2	4132	VN	40	13.87	0.016783	±2.5	PASS
Band V	TM2	4132	VN	50	2.58	0.003122	±2.5	PASS
Band V	TM2	4182	VN	-30	-2.57	-0.003075	±2.5	PASS
Band V	TM2	4182	VN	-20	-7.61	-0.009101	±2.5	PASS
Band V	TM2	4182	VN	-10	-4.88	-0.005829	±2.5	PASS
Band V	TM2	4182	VN	0	10.62	0.012692	±2.5	PASS
Band V	TM2	4182	VN	10	-4.07	-0.004861	±2.5	PASS
Band V	TM2	4182	VN	20	-2.87	-0.003431	±2.5	PASS
Band V	TM2	4182	VN	30	2.47	0.002959	±2.5	PASS
Band V	TM2	4182	VN	40	-12.64	-0.015107	±2.5	PASS
Band V	TM2	4182	VN	50	-8.54	-0.010209	±2.5	PASS
Band V	TM2	4233	VN	-30	-5.10	-0.006021	±2.5	PASS
Band V	TM2	4233	VN	-20	-10.07	-0.011891	±2.5	PASS
Band V	TM2	4233	VN	-10	9.95	0.011748	±2.5	PASS
Band V	TM2	4233	VN	0	13.62	0.016093	±2.5	PASS
Band V	TM2	4233	VN	10	-2.93	-0.003463	±2.5	PASS
Band V	TM2	4233	VN	20	-13.58	-0.016044	±2.5	PASS
Band V	TM2	4233	VN	30	-4.04	-0.004773	±2.5	PASS
Band V	TM2	4233	VN	40	-10.62	-0.012540	±2.5	PASS
Band V	TM2	4233	VN	50	1.73	0.002047	±2.5	PASS

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