



# Appendix B

## WCDMA Band II & IV & V



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)



## CONTENT

<b>1. EFFECTIVE (ISOTROPIC) RADIATED POWER.....</b>	<b>3</b>
1.1. TEST RESULT .....	3
<b>2. PEAK-TO-AVERAGE RATIO(CCDF) .....</b>	<b>4</b>
2.1. TEST RESULT .....	4
2.2. TEST PLOTS .....	4
<b>3. MODULATION CHARACTERISTICS .....</b>	<b>9</b>
3.1. TEST BAND = WCDMA BAND II.....	9
3.1.1. TEST MODE = UMTS/TM1 .....	9
3.1.1.1. TEST CHANNEL = MCH .....	9
3.2. TEST BAND = WCDMA BAND IV .....	10
3.2.1. TEST MODE = UMTS/TM1 .....	10
3.2.1.1. TEST CHANNEL = MCH .....	10
3.3. TEST BAND = WCDMA BAND V .....	11
3.3.1. TEST MODE = UMTS/TM1 .....	11
3.3.1.1. TEST CHANNEL = MCH .....	11
<b>4. 26DB BANDWIDTH AND OCCUPIED BANDWIDTH .....</b>	<b>12</b>
4.1. TEST RESULT .....	12
4.2. TEST PLOTS .....	12
<b>5. BAND EDGE COMPLIANCE .....</b>	<b>17</b>
5.1. TEST PLOTS .....	17
<b>6. SPURIOUS EMISSION AT ANTENNA TERMINAL .....</b>	<b>21</b>
6.1. TEST PLOTS .....	21
<b>7. FREQUENCY STABILITY .....</b>	<b>31</b>
7.1. FREQUENCY VS VOLTAGE .....	31
7.2. FREQUENCY VS TEMPERATURE .....	32



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (Testing Center) EEC Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057  
中国·深圳·科技园中区M-10栋一号厂房

t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



## 1. Effective (Isotropic) Radiated Power

### 1.1. Test Result

#### ANT1:

Band	Channel	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
Band II	9262	23.69	23.92	33.00	PASS
Band II	9400	23.65	23.88	33.00	PASS
Band II	9538	23.76	23.99	33.00	PASS
Band IV	1312	23.42	21.03	30.00	PASS
Band IV	1413	23.44	21.05	30.00	PASS
Band IV	1513	23.55	21.16	30.00	PASS

#### ANT1:

Band	Channel	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
Band V	4132	23.38	18.33	38.45	PASS
Band V	4182	23.30	18.25	38.45	PASS
Band V	4233	23.45	18.4	38.45	PASS

#### ANT4:

Band	Channel	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
Band II	9262	23.61	19.41	33.00	PASS
Band II	9400	23.62	19.42	33.00	PASS
Band II	9538	23.75	19.55	33.00	PASS
Band IV	1312	23.52	21.12	30.00	PASS
Band IV	1413	23.45	21.05	30.00	PASS
Band IV	1513	23.51	21.11	30.00	PASS

#### ANT4:

Band	Channel	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
Band V	4132	23.54	18.29	38.45	PASS
Band V	4182	23.44	18.19	38.45	PASS
Band V	4233	23.62	18.37	38.45	PASS

#### Remark:

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

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

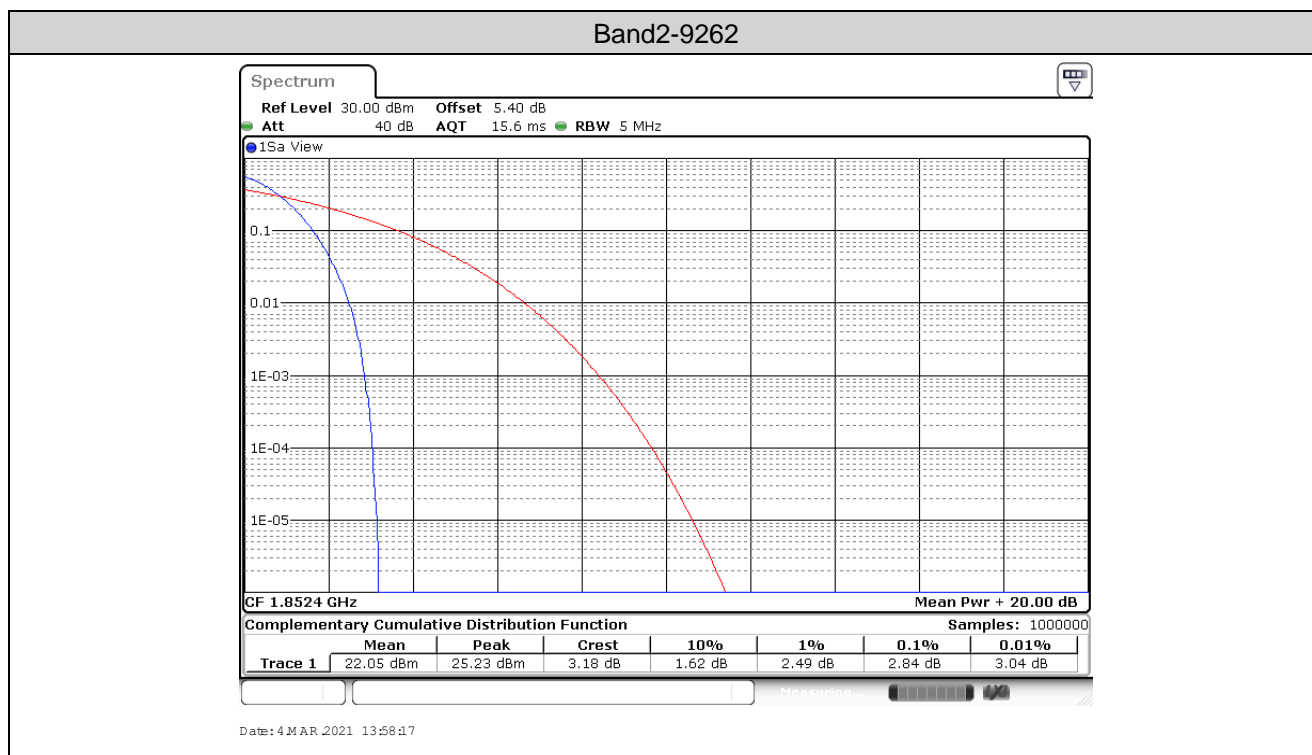
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

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

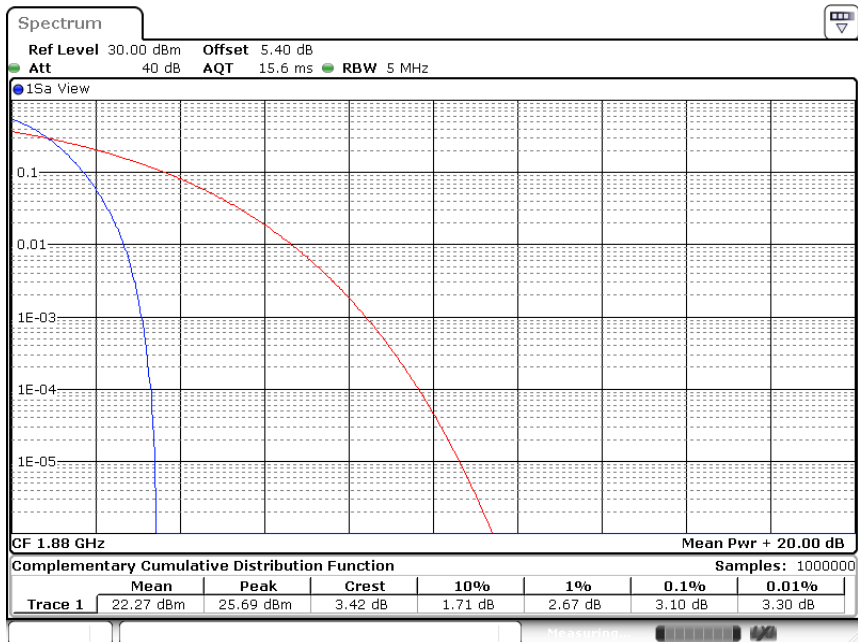
### 2.1. Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9262	2.84	13	PASS
Band2	9400	3.1	13	PASS
Band2	9538	2.84	13	PASS
Band4	1312	2.81	13	PASS
Band4	1413	3.07	13	PASS
Band4	1513	2.99	13	PASS
Band5	4132	2.87	13	PASS
Band5	4182	3.01	13	PASS
Band5	4233	3.04	13	PASS

### 2.2. Test Plots

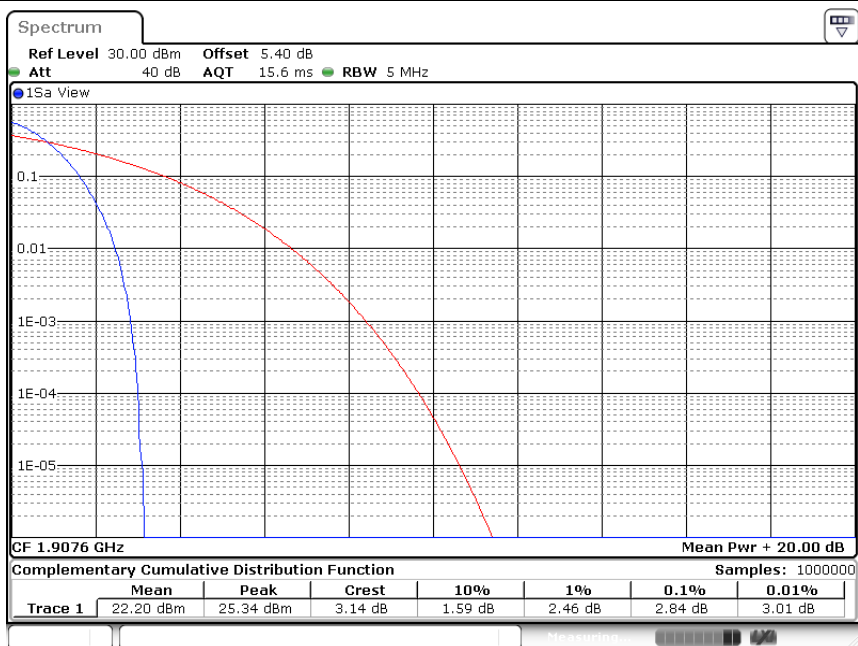


## Band2-9400



Date: 4 MAR 2021 13:58:32

## Band2-9538

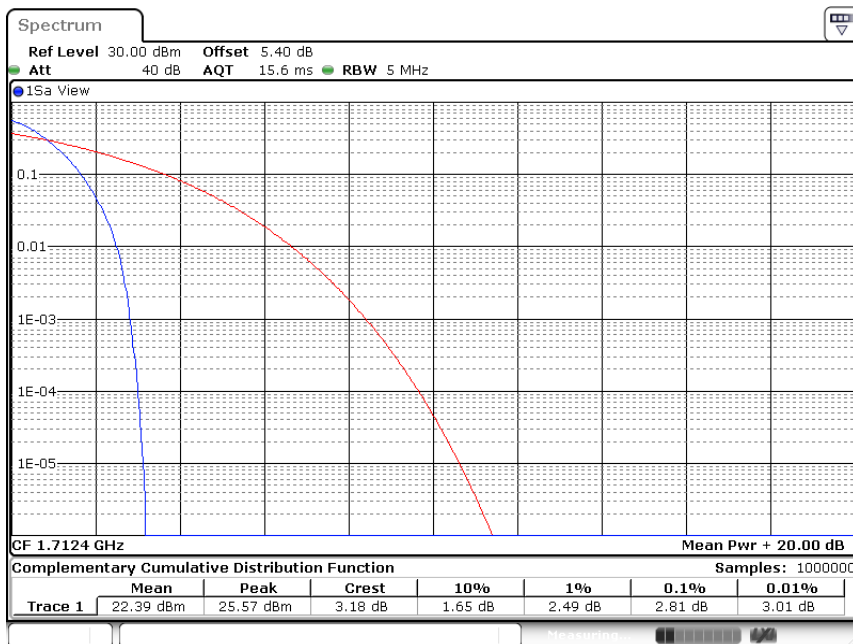


Date: 4 MAR 2021 13:58:47



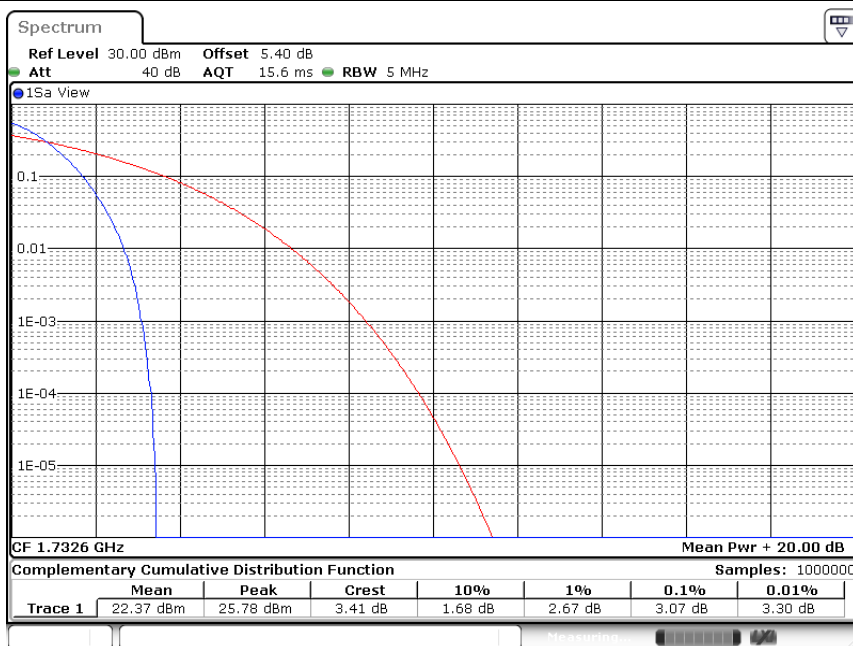


## Band4-1312



Date: 4 MAR 2021 14:27:57

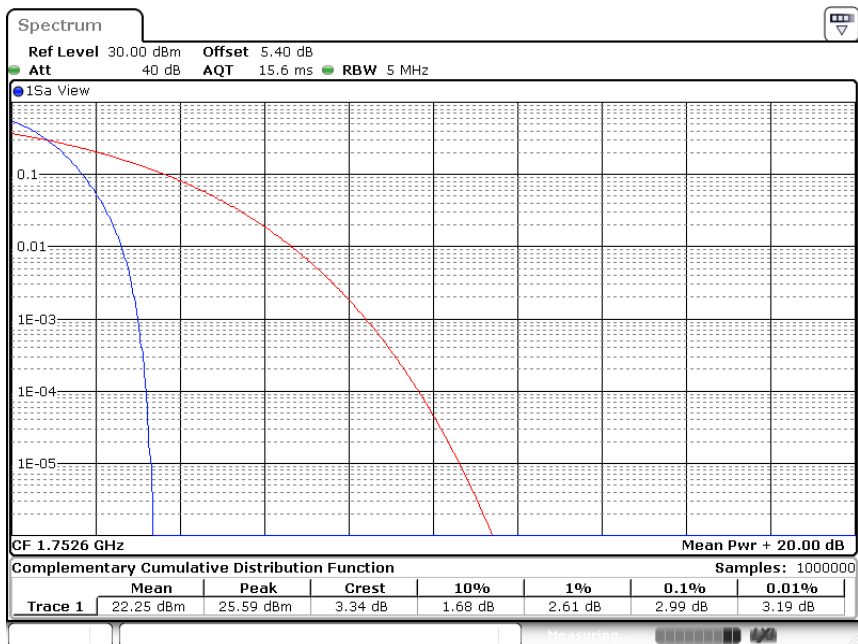
## Band4-1413



Date: 4 MAR 2021 14:28:11

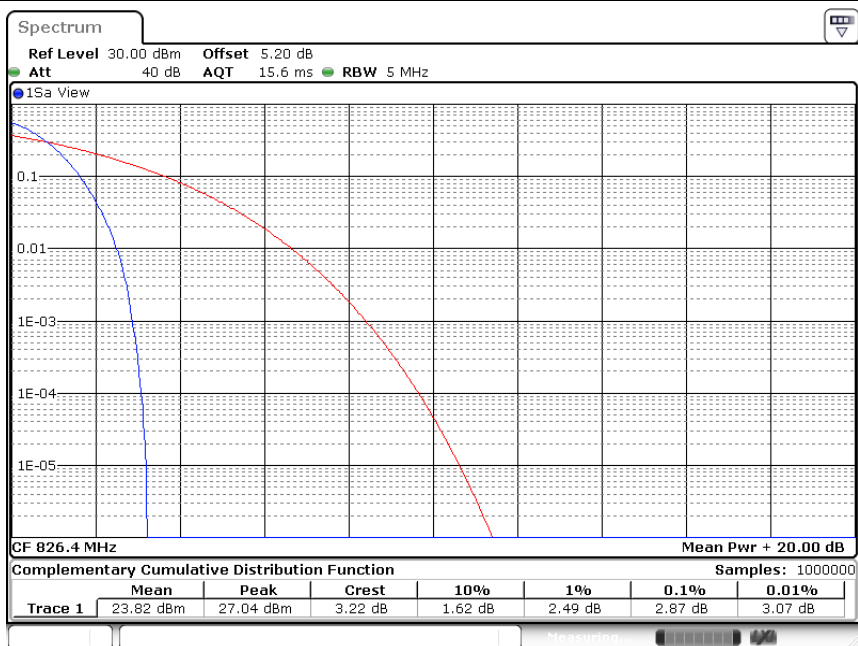


## Band4-1513



Date: 4 MAR 2021 14:28:26

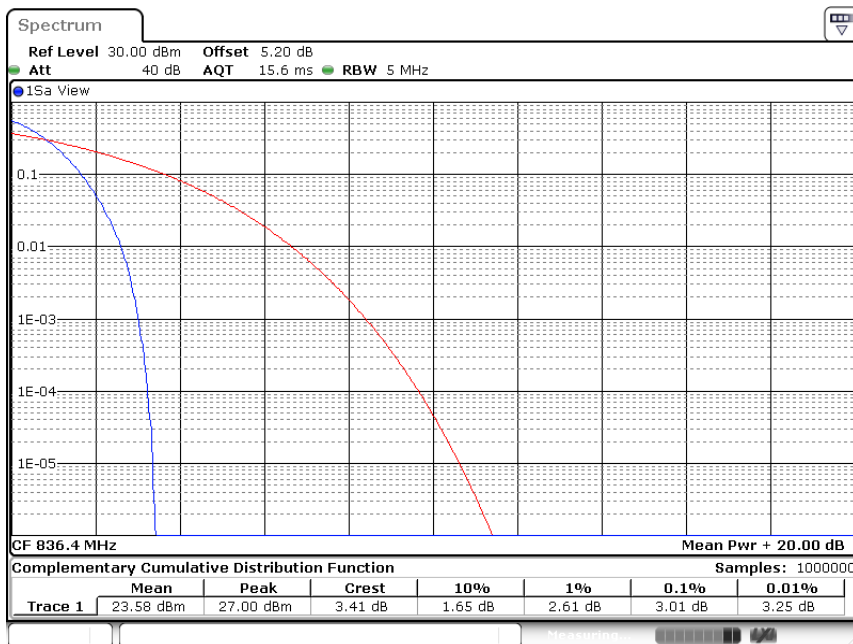
## Band5-4132



Date: 4 MAR 2021 14:43:33

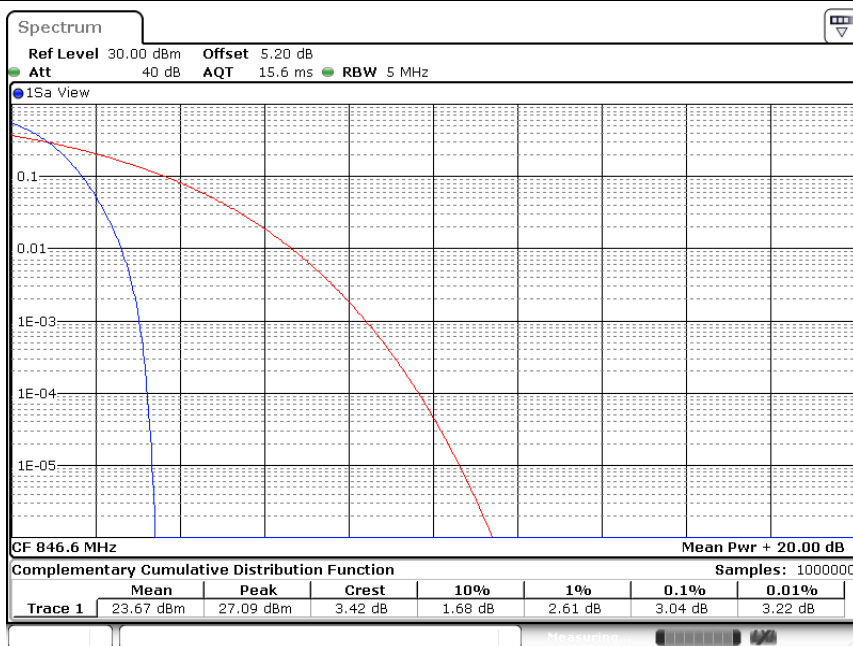


## Band5-4182



Date: 4 MAR 2021 14:43:47

## Band5-4233



Date: 4 MAR 2021 14:44:02



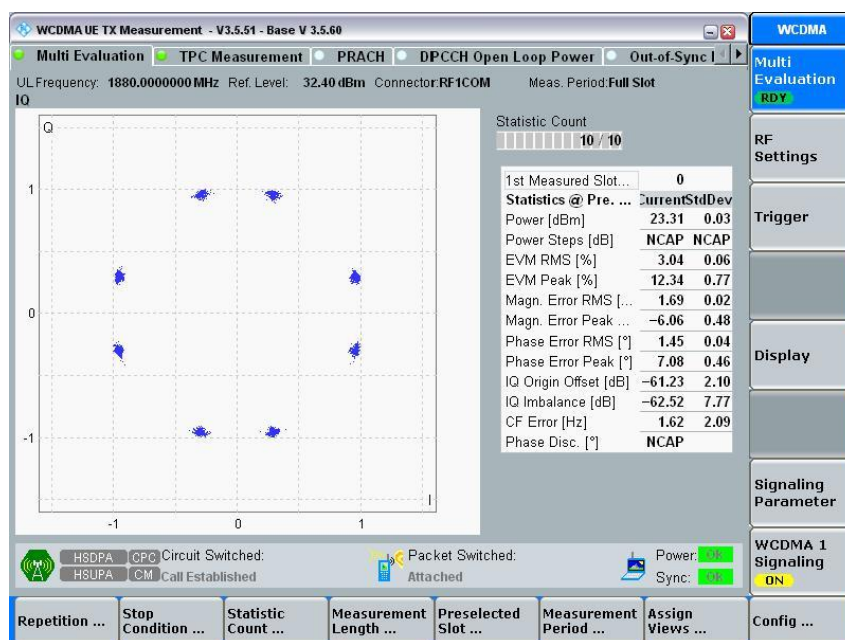


### 3. Modulation Characteristics

#### 3.1. Test Band = WCDMA Band II

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

##### 3.1.1.1. Test Channel = MCH

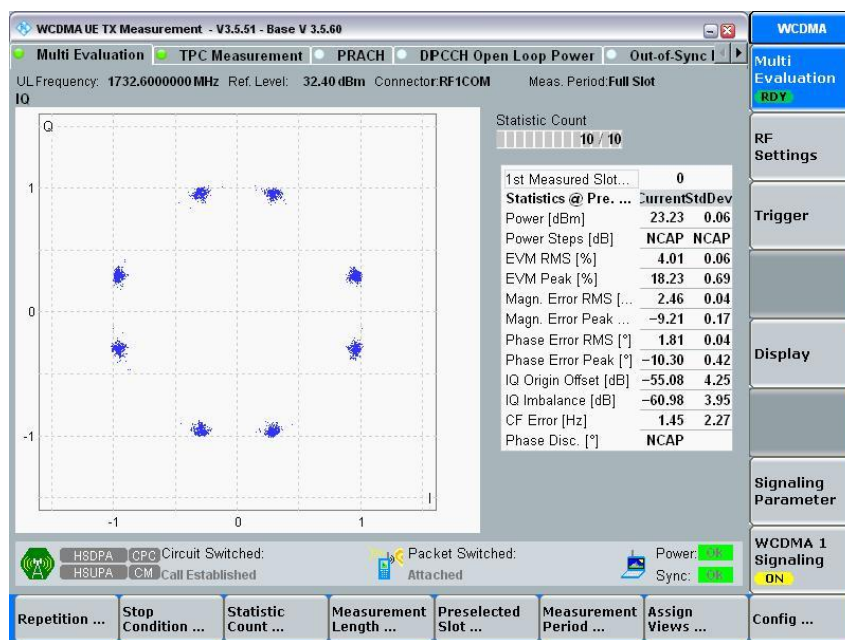


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

### 3.2. Test Band = WCDMA Band IV

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

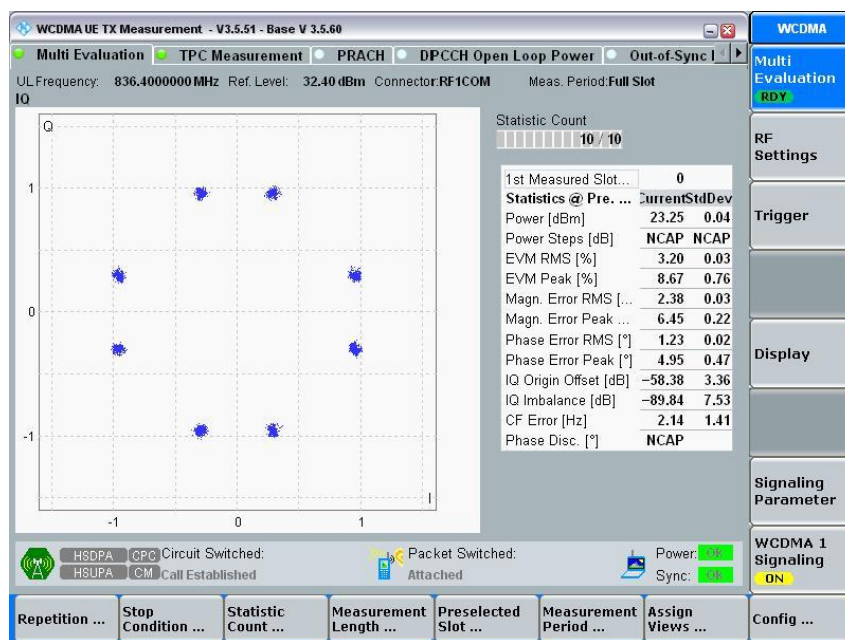
##### 3.2.1.1. Test Channel = MCH



### 3.3. Test Band = WCDMA Band V

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

##### 3.3.1.1. Test Channel = MCH



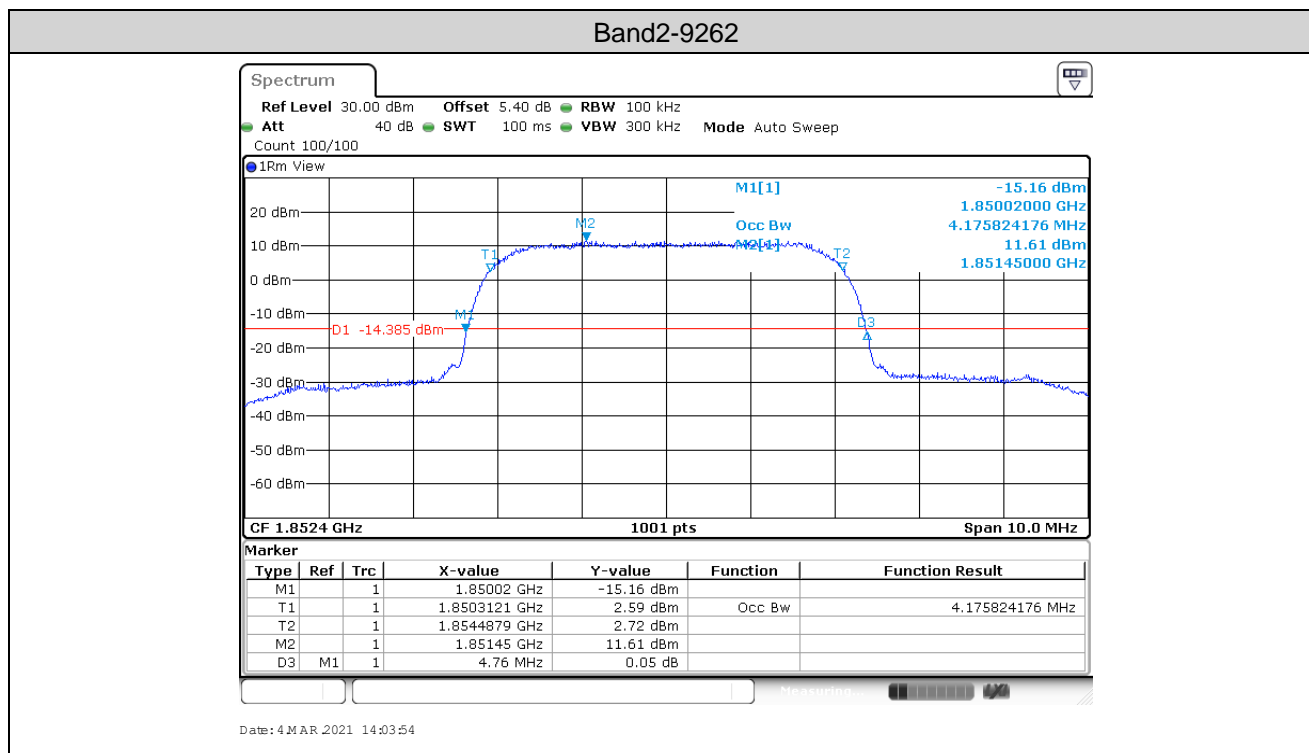


## 4. 26dB Bandwidth and Occupied Bandwidth

### 4.1. Test Result

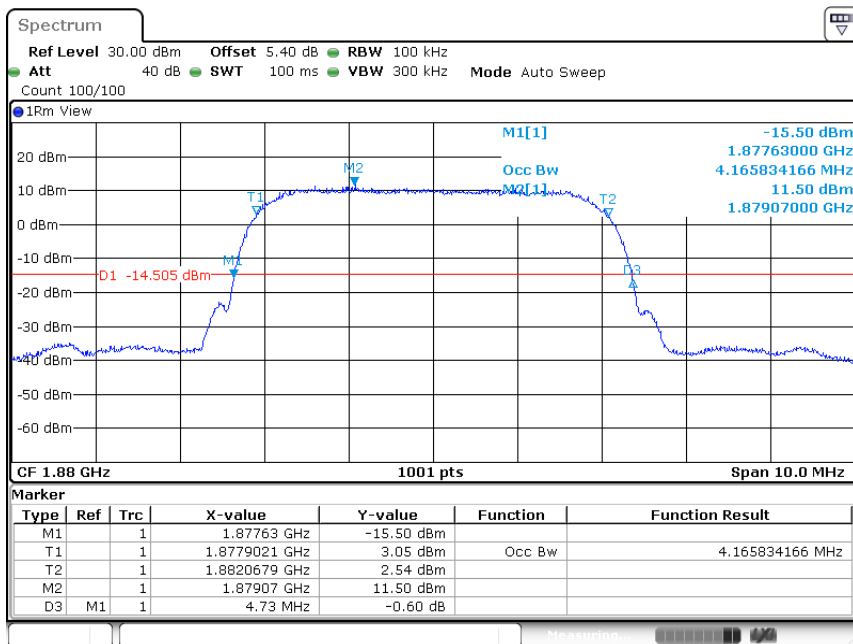
Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(MHz)	Verdict
Band2	9262	4.176	4.760	---	PASS
Band2	9400	4.166	4.730	---	PASS
Band2	9538	4.166	4.740	---	PASS
Band4	1312	4.166	4.740	---	PASS
Band4	1413	4.166	4.730	---	PASS
Band4	1513	4.166	4.720	---	PASS
Band5	4132	4.166	4.730	---	PASS
Band5	4182	4.156	4.730	---	PASS
Band5	4233	4.166	4.740	---	PASS

### 4.2. Test Plots



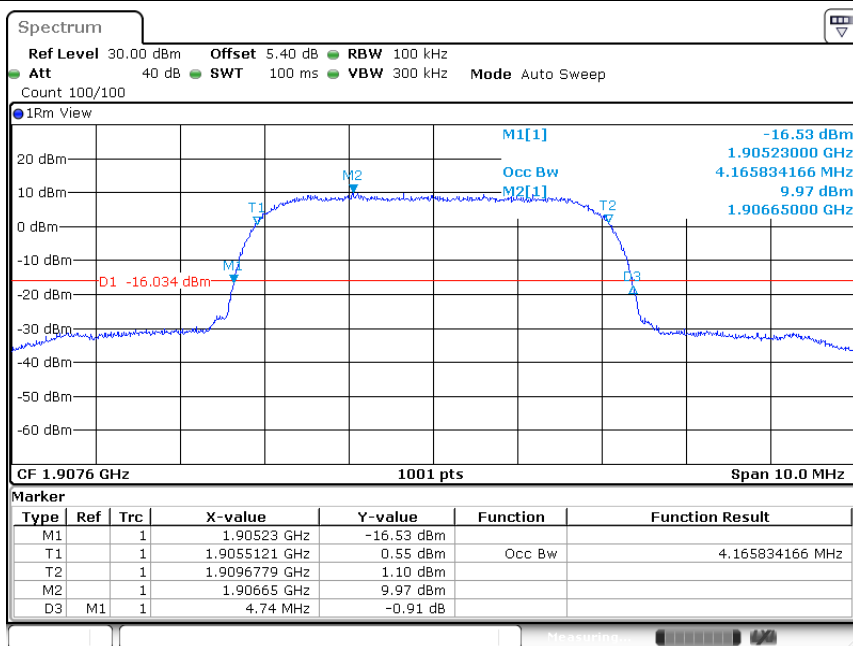


## Band2-9400



Date: 4 MAR 2021 14:04:17

## Band2-9538

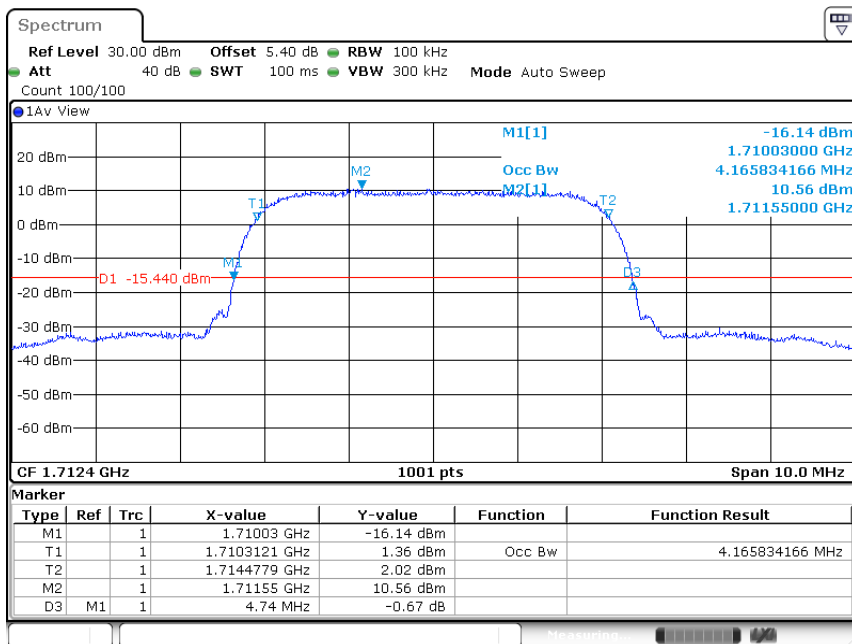


Date: 4 MAR 2021 14:04:40



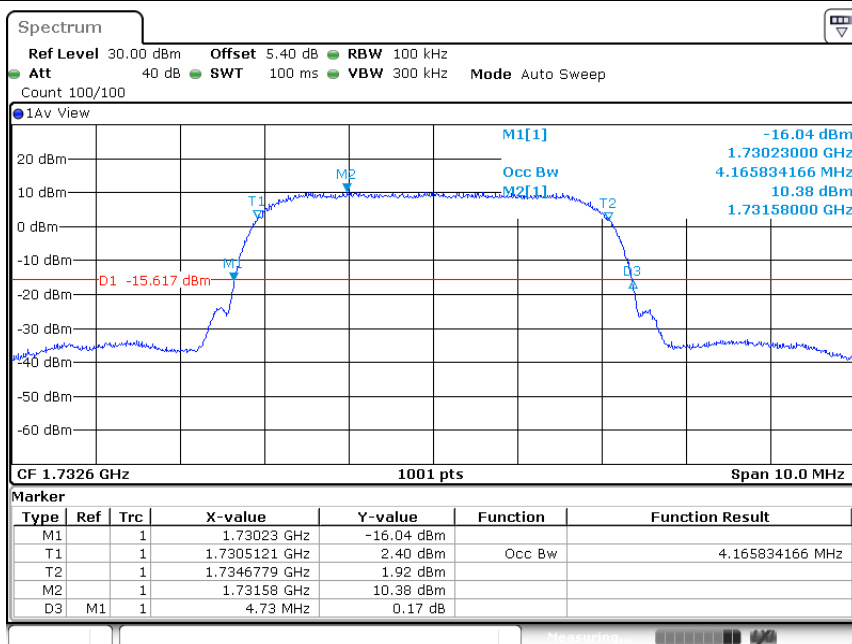


## Band4-1312



Date: 4 MAR 2021 14:33:33

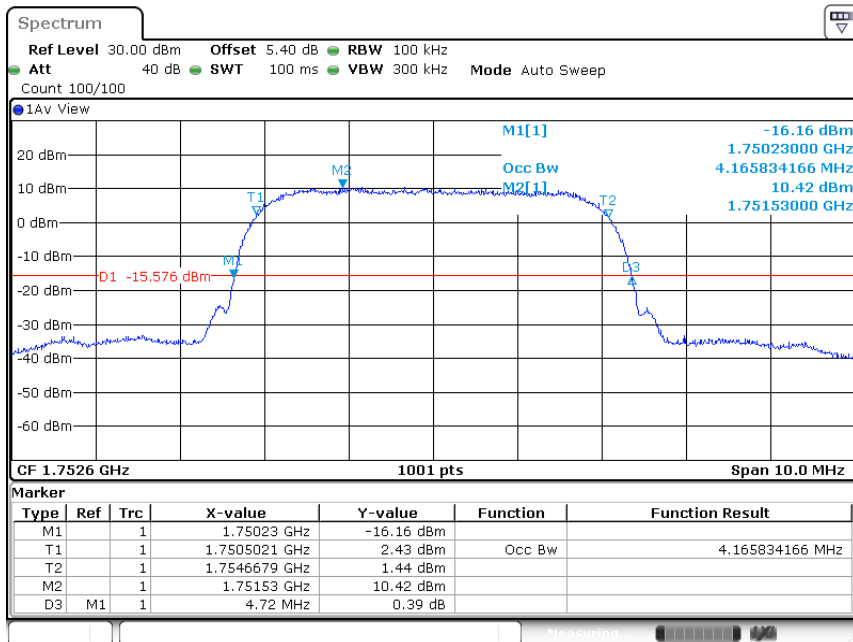
## Band4-1413



Date: 4 MAR 2021 14:33:56

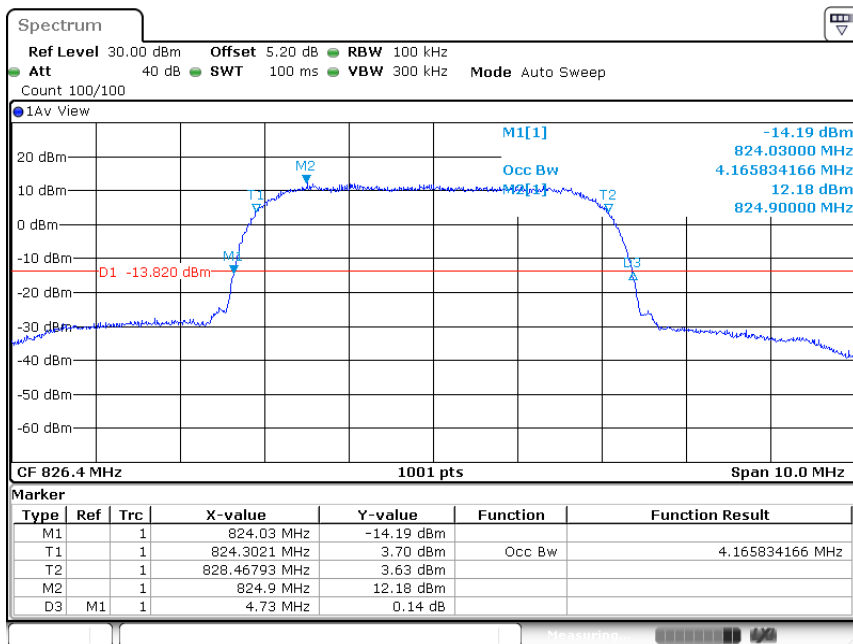


## Band4-1513



Date: 4 MAR 2021 14:34:20

## Band5-4132



Date: 4 MAR 2021 14:49:10



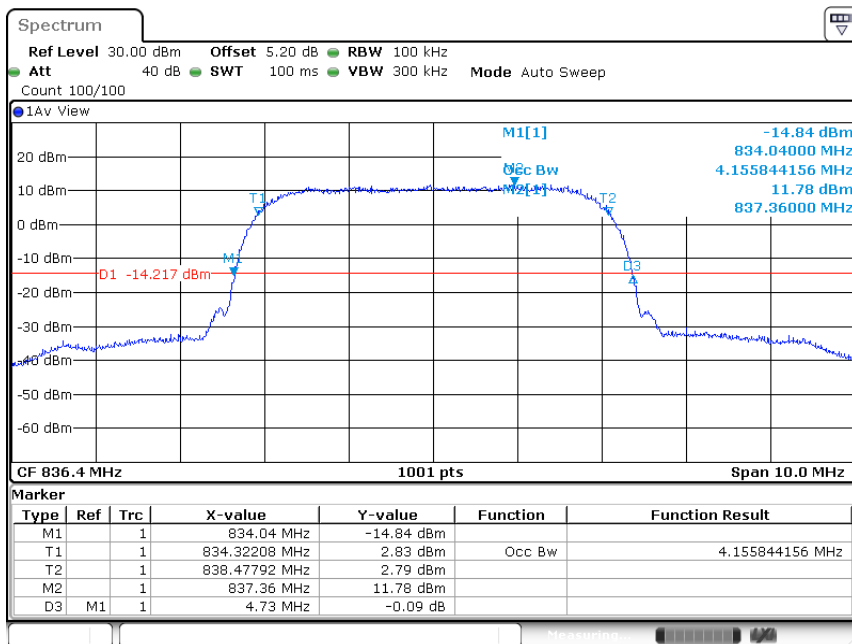
SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (CCC Laboratory)

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

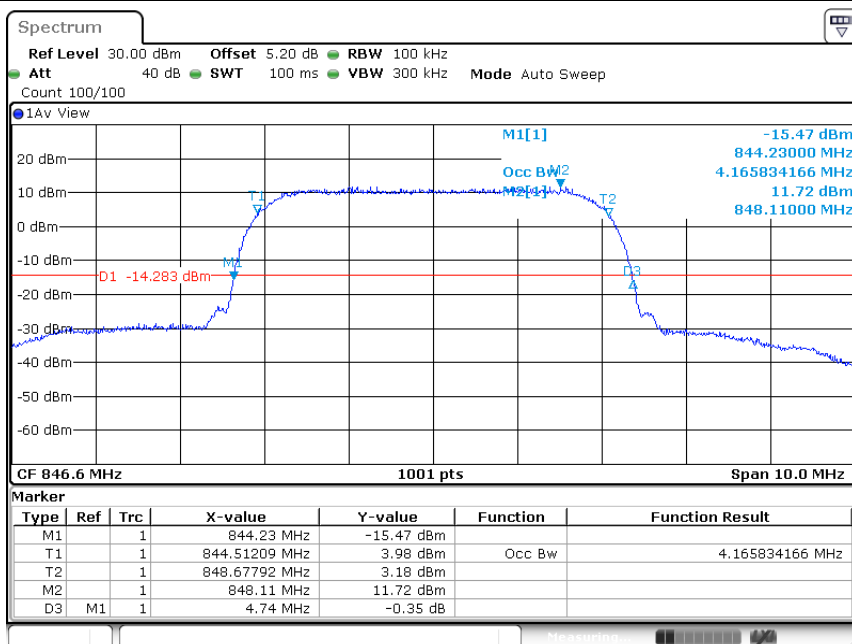
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## Band5-4182



Date: 4 MAR 2021 14:49:33

## Band5-4233

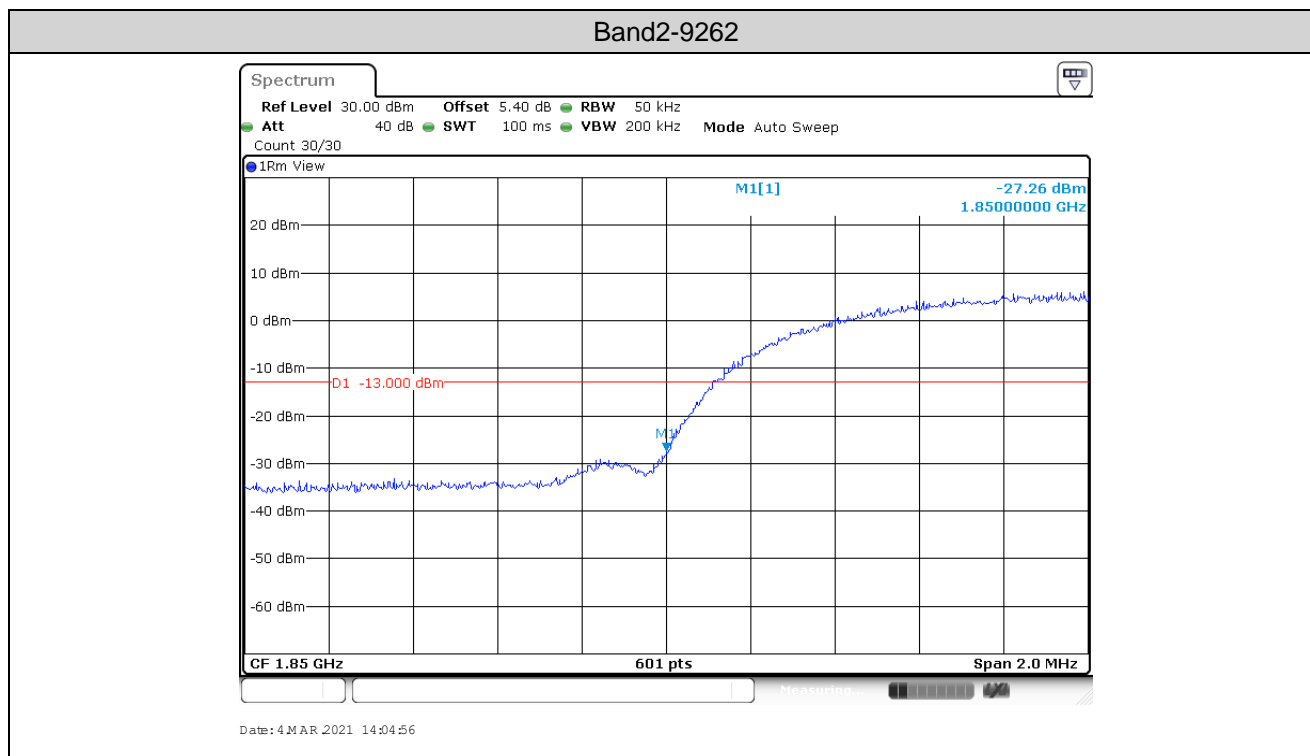


Date: 4 MAR 2021 14:49:56

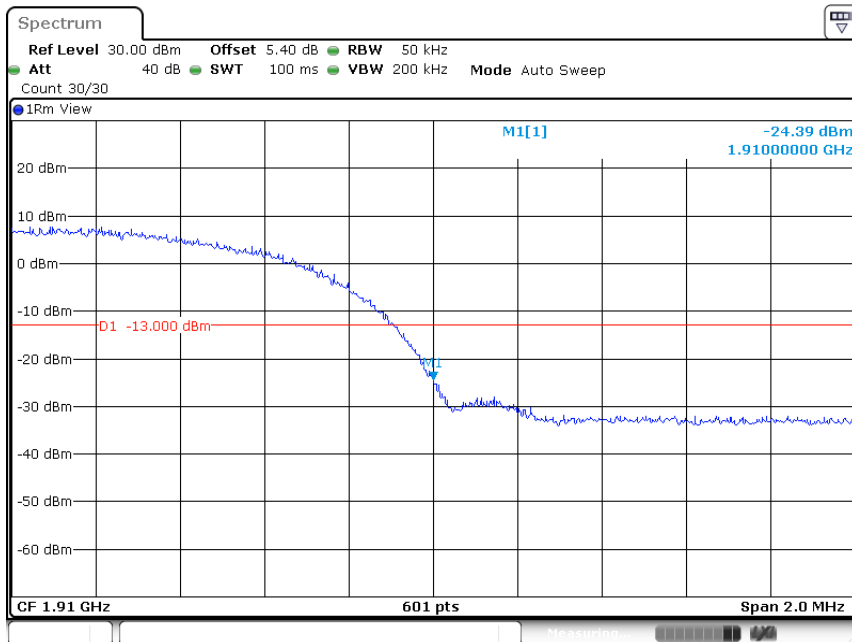


## 5. Band Edge Compliance

### 5.1. Test Plots

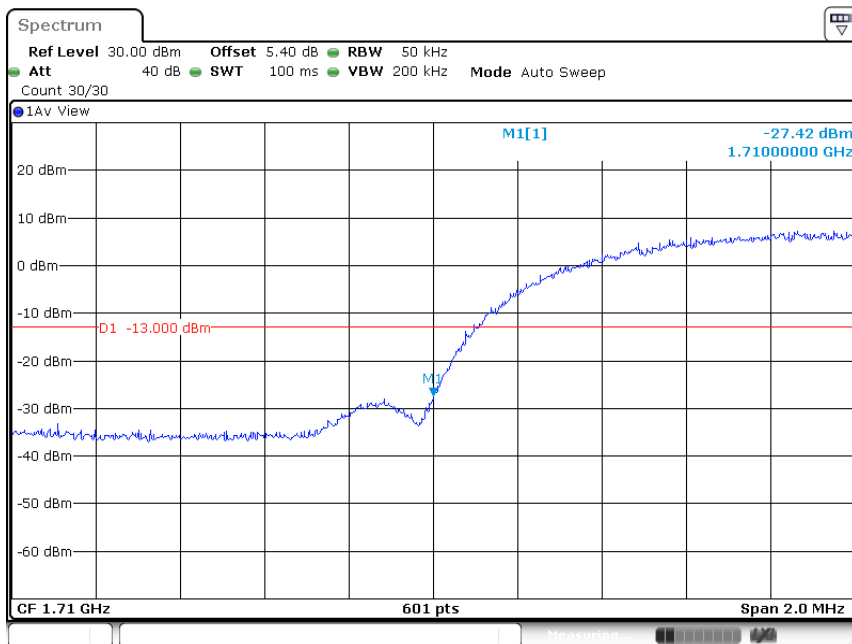


**Band2-9538**



Date: 4 MAR 2021 14:05:11

**Band4-1312**



Date: 4 MAR 2021 14:34:35

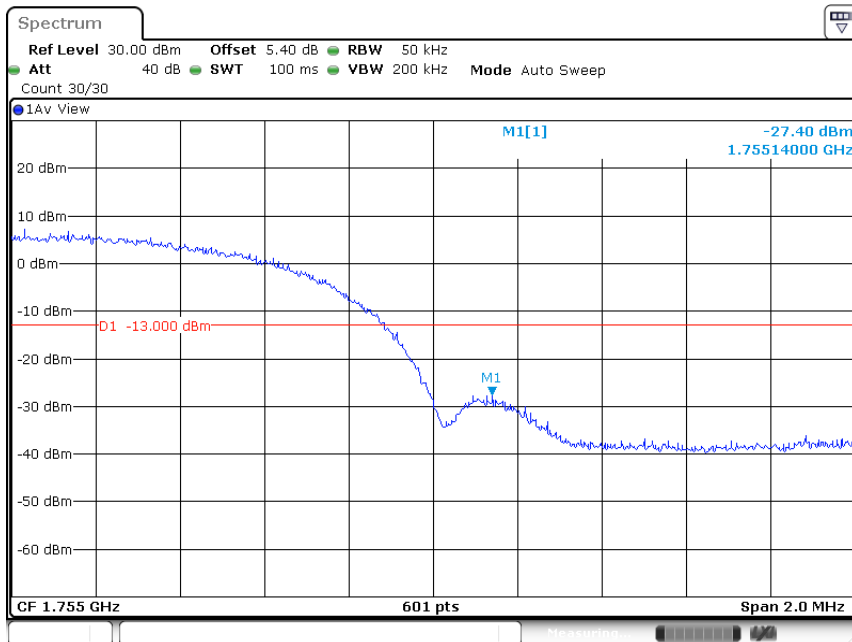


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

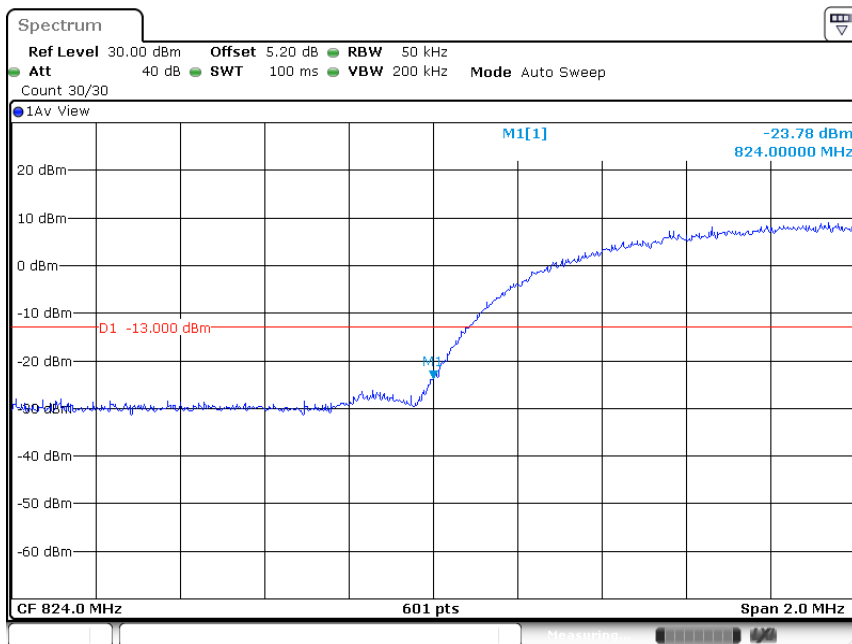


## Band4-1513



Date: 4 MAR 2021 14:34:50

## Band5-4132

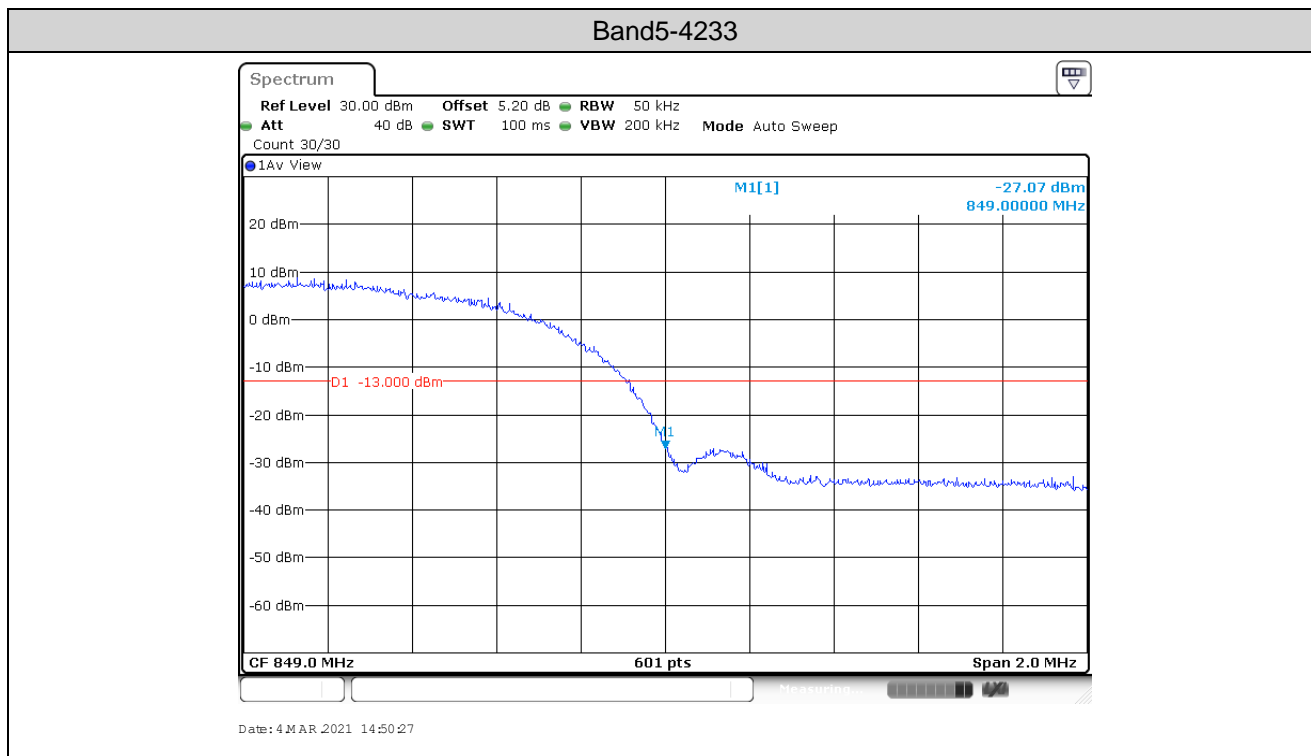


Date: 4 MAR 2021 14:50:12



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

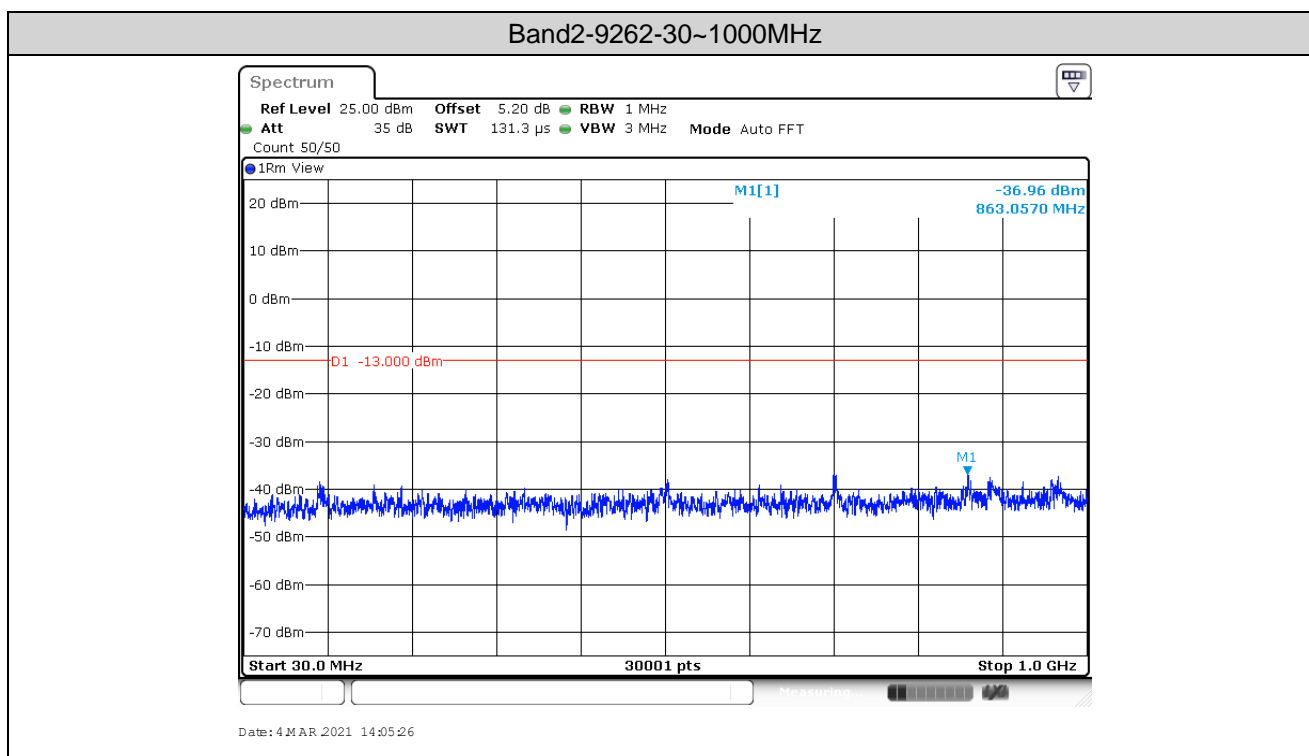


## 6. Spurious Emission at Antenna Terminal

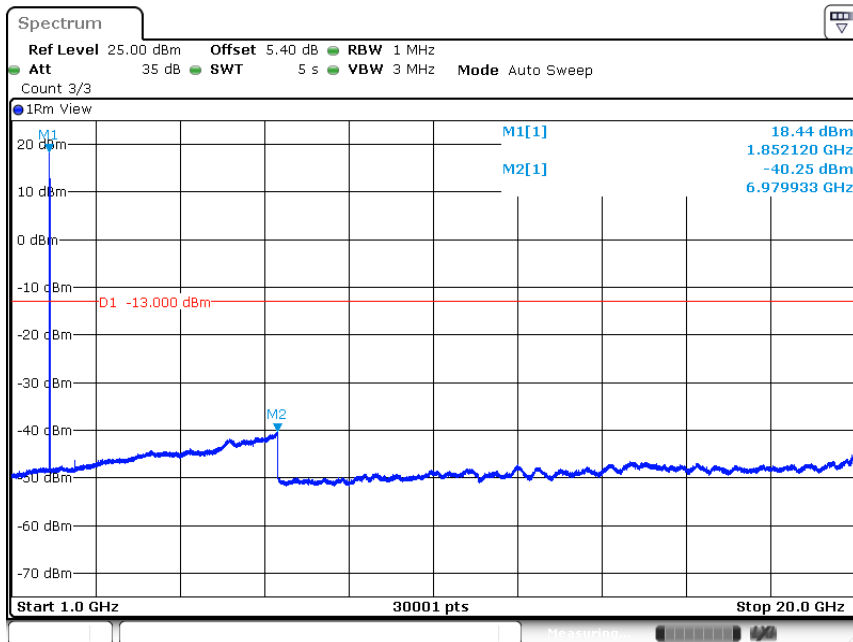
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k \cdot (\text{Span} / RBW)$ " 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.

### 6.1. Test Plots

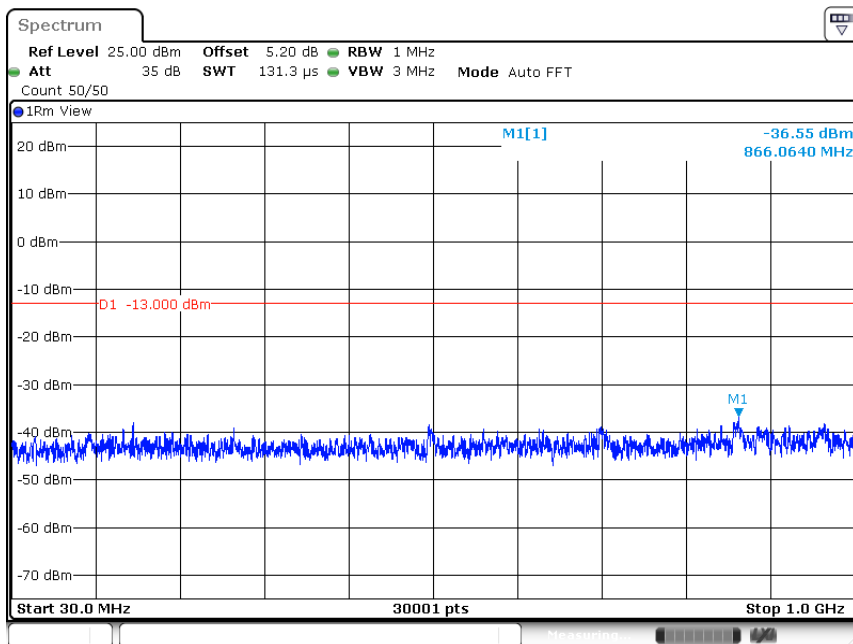


**Band2-9262-1000~20000MHz**



Date: 4 MAR 2021 14:05:52

**Band2-9400-30~1000MHz**



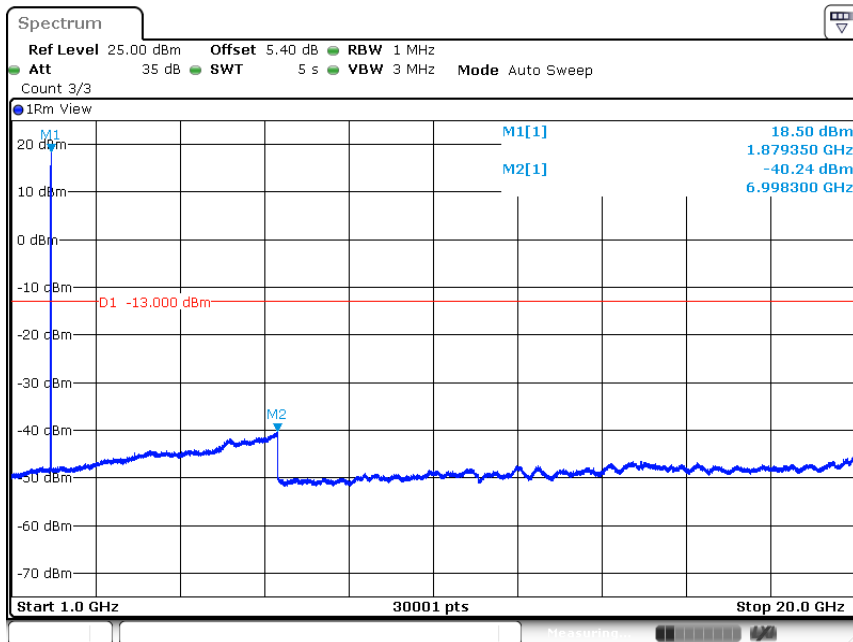
Date: 4 MAR 2021 14:06:06



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

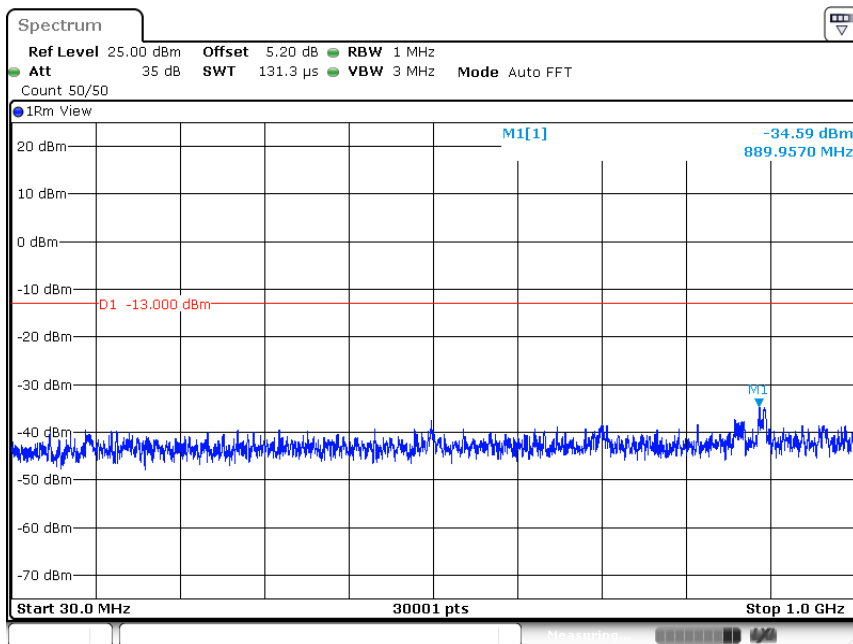
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## Band2-9400-1000~20000MHz



Date: 4 MAR 2021 14:06:32

## Band2-9538-30~1000MHz



Date: 4 MAR 2021 14:06:46

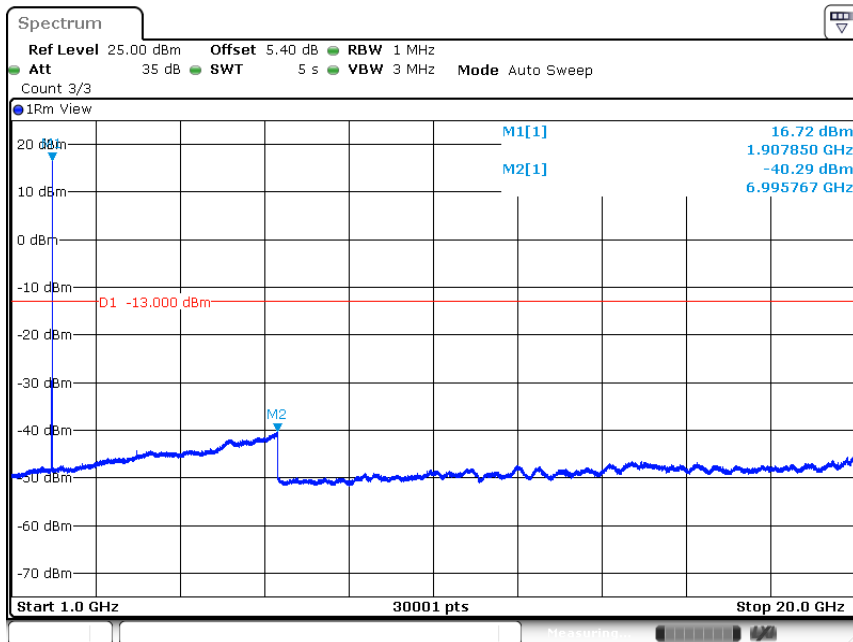


SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (CCC Laboratory)

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.  
 Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

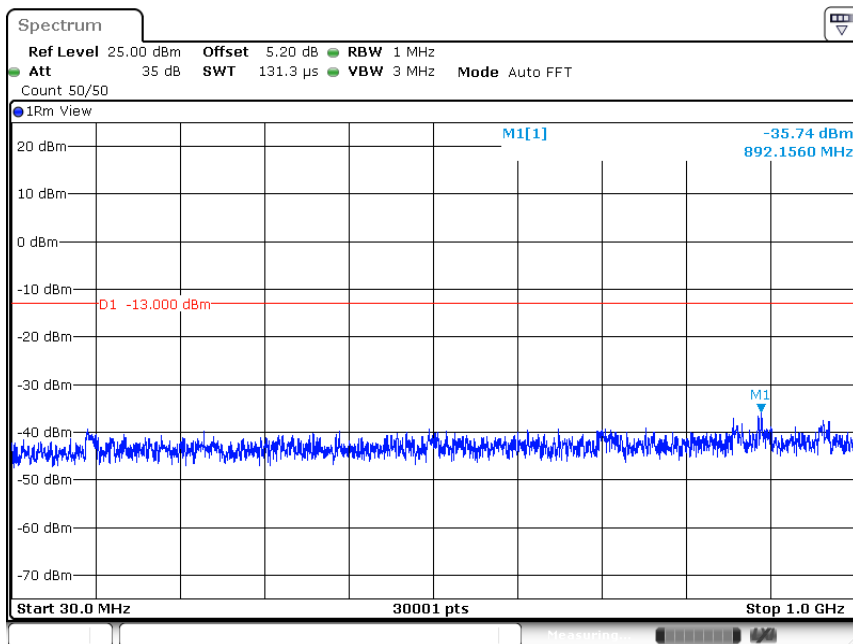


## Band2-9538-1000~20000MHz



Date: 4 MAR 2021 14:07:12

## Band4-1312-30~1000MHz



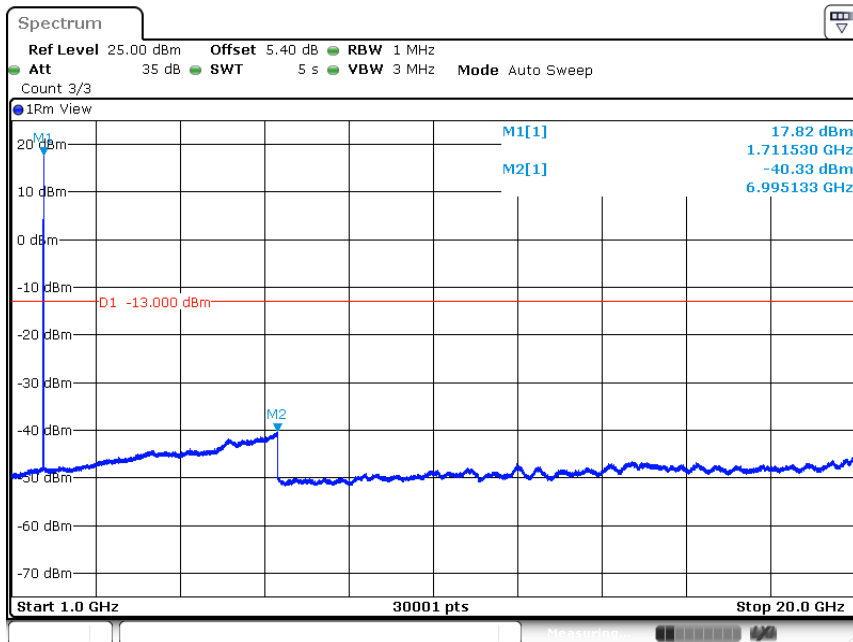
Date: 4 MAR 2021 14:35:05



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

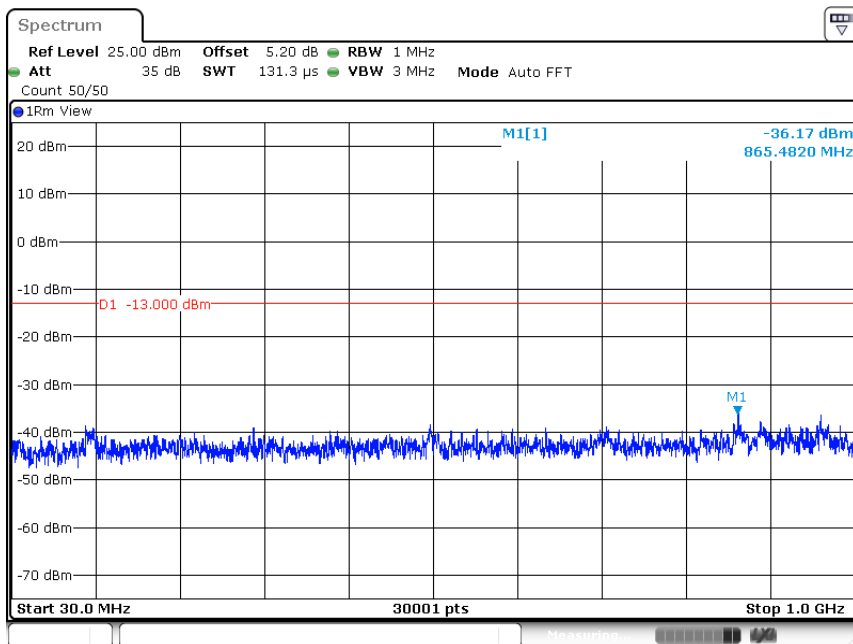
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## Band4-1312-1000~20000MHz



Date: 4 MAR 2021 14:35:30

## Band4-1413-30~1000MHz



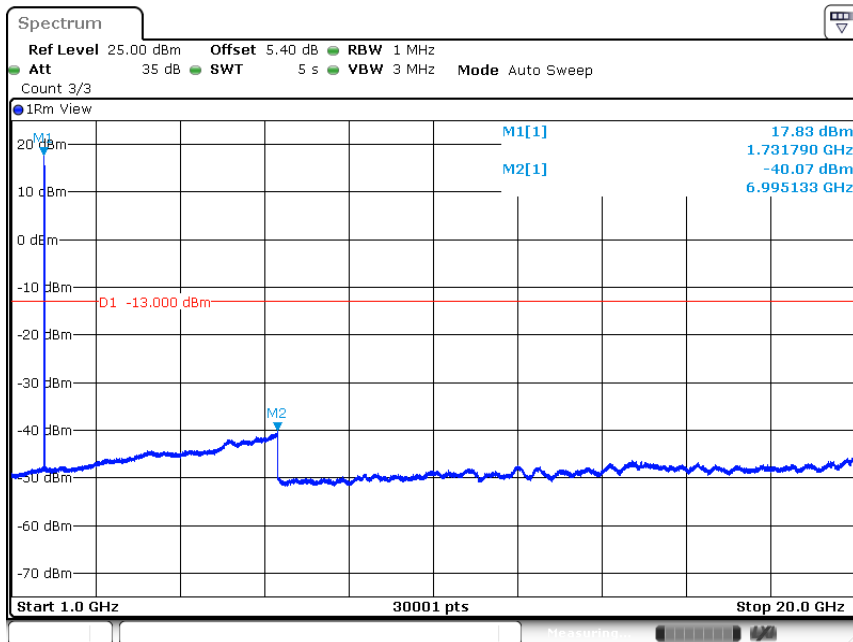
Date: 4 MAR 2021 14:35:44



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

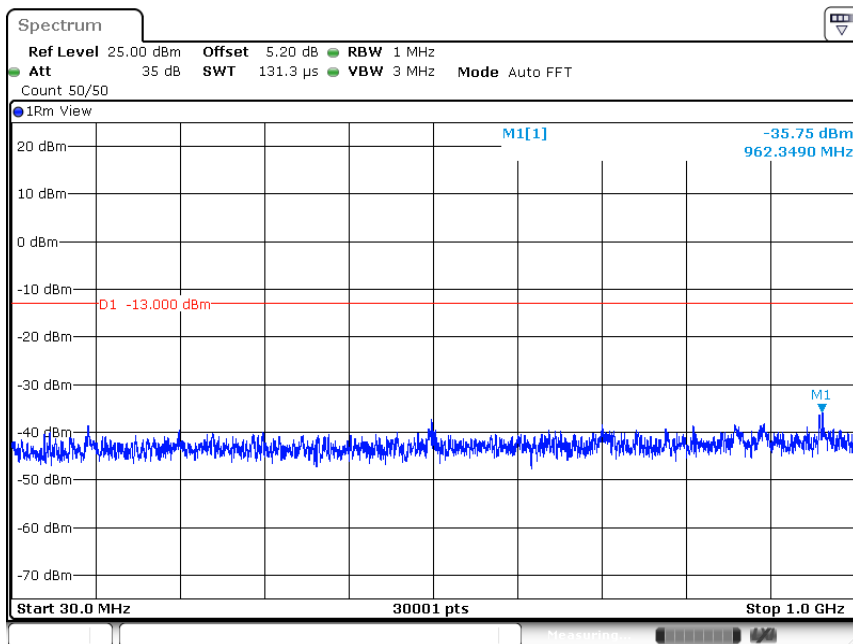
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## Band4-1413-1000~20000MHz



Date: 4 MAR 2021 14:36:10

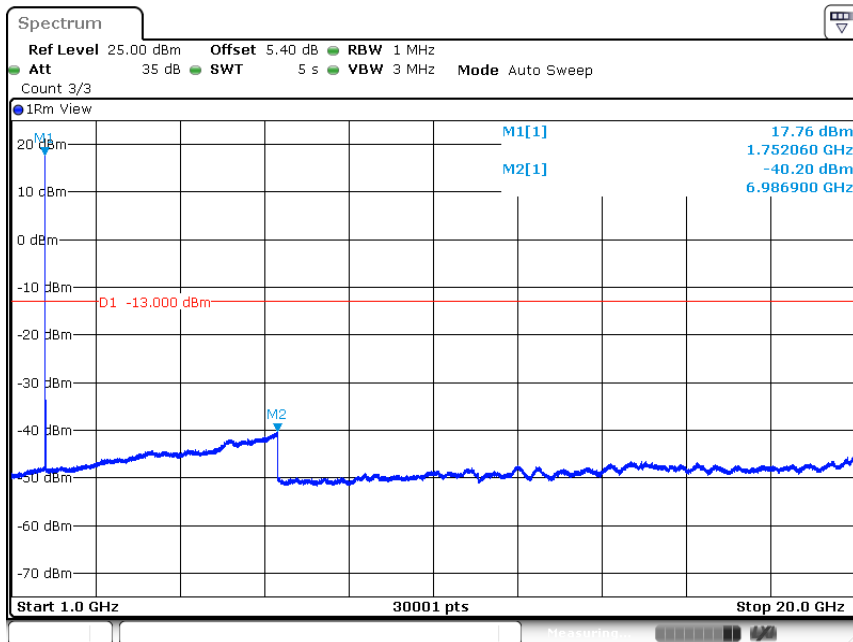
## Band4-1513-30~1000MHz



Date: 4 MAR 2021 14:36:24

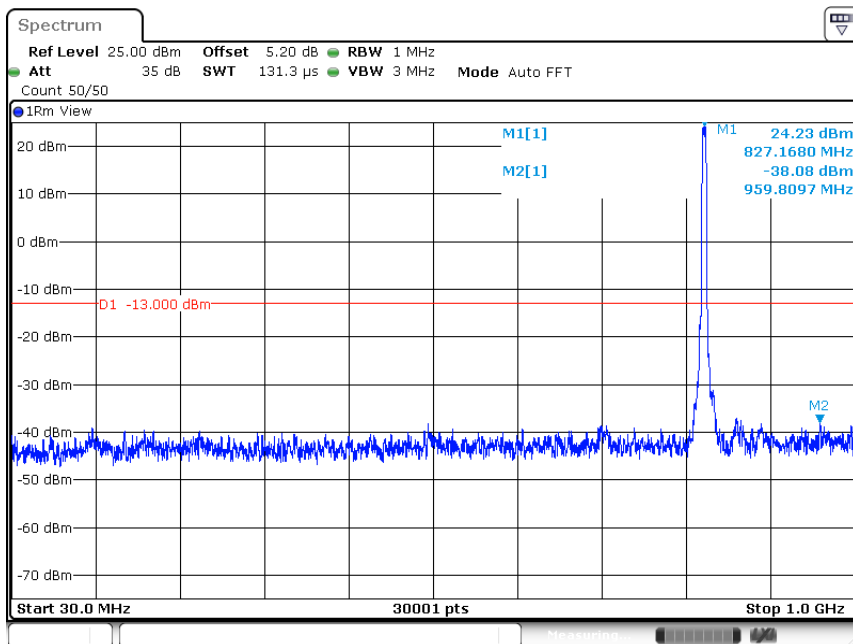


## Band4-1513-1000~20000MHz



Date: 4 MAR 2021 14:36:50

## Band5-4132-30~1000MHz



Date: 4 MAR 2021 14:50:42



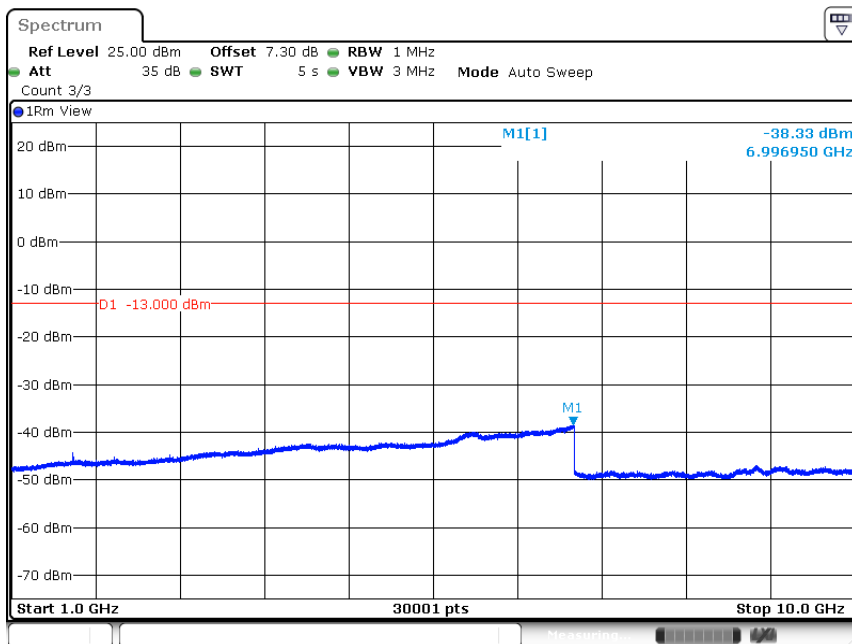
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (CCC Laboratory)

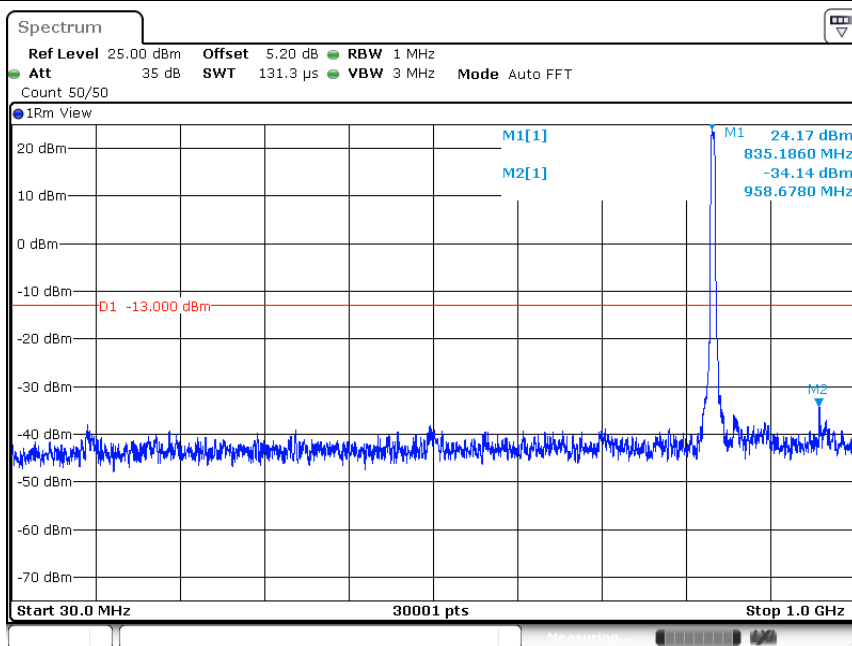
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## Band5-4132-1000~10000MHz



Date: 4 MAR 2021 14:51:07

## Band5-4182-30~1000MHz

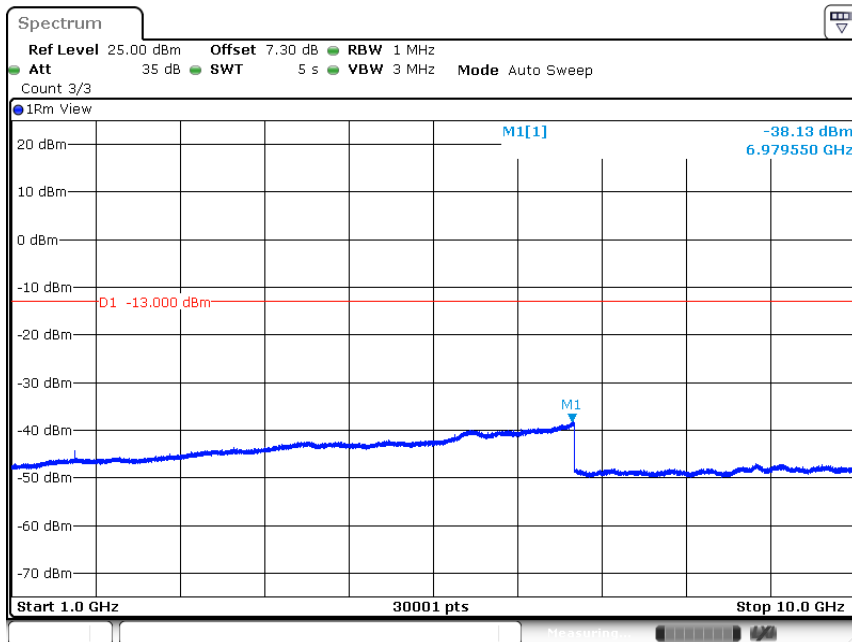


Date: 4 MAR 2021 14:51:22



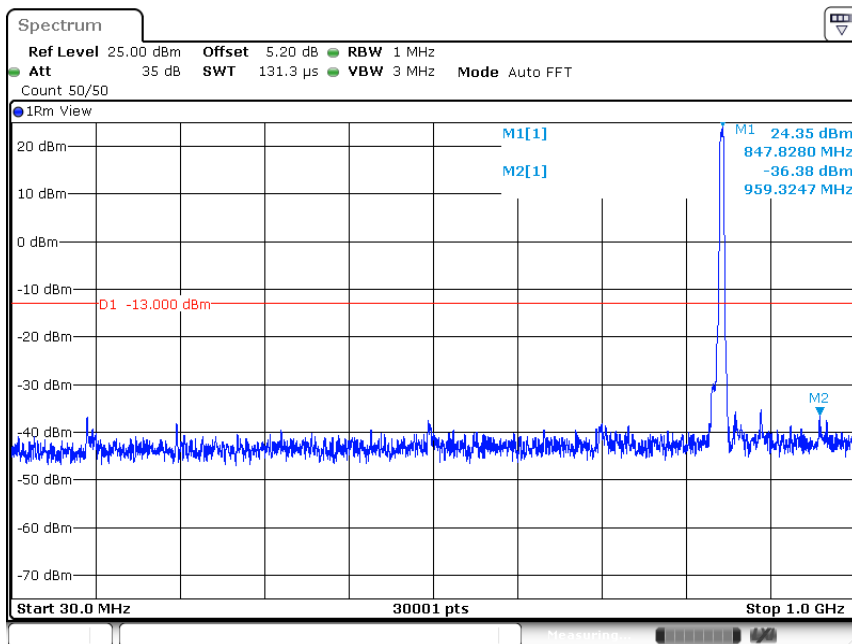


## Band5-4182-1000~10000MHz



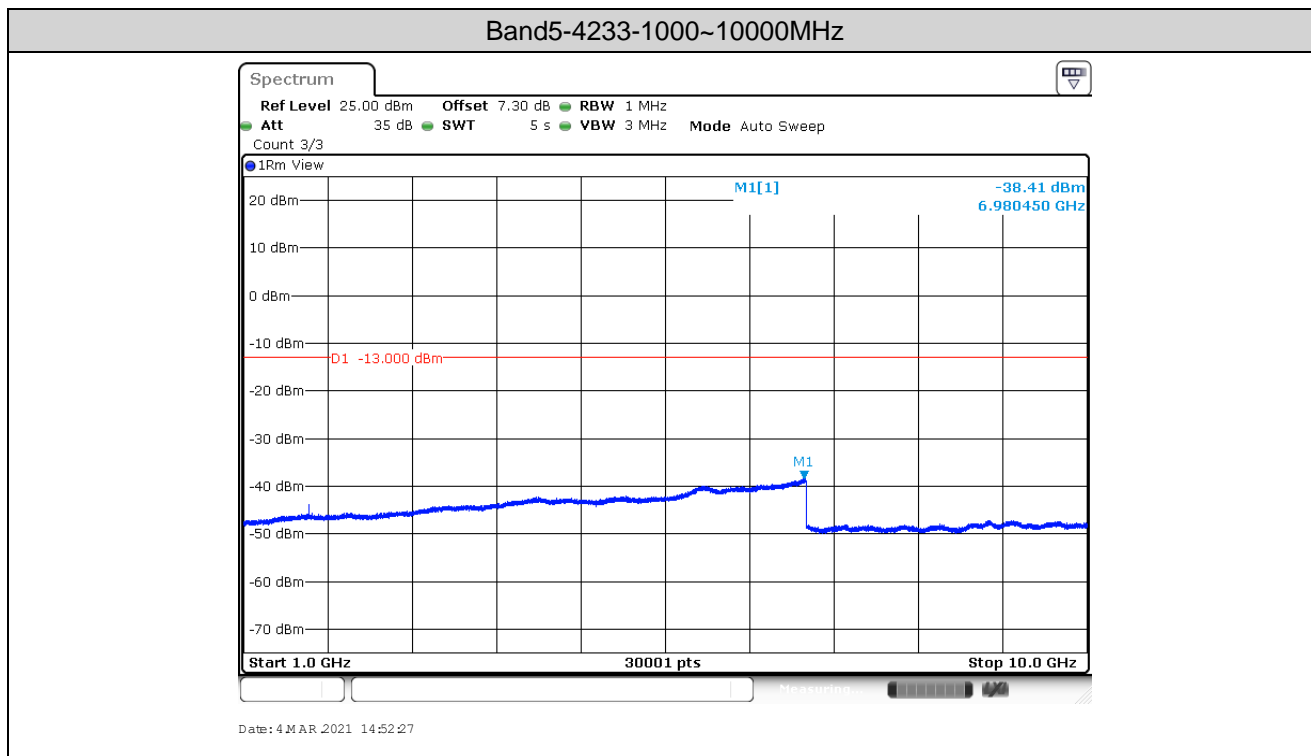
Date: 4 MAR 2021 14:51:47

## Band5-4233-30~1000MHz



Date: 4 MAR 2021 14:52:02





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



## 7. Frequency Stability

### 7.1. Frequency Vs Voltage

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9262	VL	NT	-0.45	-0.000243	±2.5	PASS
Band2	9262	VN	NT	-0.09	-0.000049	±2.5	PASS
Band2	9262	VH	NT	0.19	0.000103	±2.5	PASS
Band2	9400	VL	NT	2.68	0.001426	±2.5	PASS
Band2	9400	VN	NT	2.73	0.001452	±2.5	PASS
Band2	9400	VH	NT	2.36	0.001255	±2.5	PASS
Band2	9538	VL	NT	-0.32	-0.000168	±2.5	PASS
Band2	9538	VN	NT	-0.33	-0.000173	±2.5	PASS
Band2	9538	VH	NT	0.25	0.000131	±2.5	PASS
Band4	1312	VL	NT	1.43	0.000835	±2.5	PASS
Band4	1312	VN	NT	1.75	0.001022	±2.5	PASS
Band4	1312	VH	NT	2.11	0.001232	±2.5	PASS
Band4	1413	VL	NT	-0.45	-0.000260	±2.5	PASS
Band4	1413	VN	NT	-0.03	-0.000017	±2.5	PASS
Band4	1413	VH	NT	-0.31	-0.000179	±2.5	PASS
Band4	1513	VL	NT	-3.15	-0.001797	±2.5	PASS
Band4	1513	VN	NT	-3.40	-0.001940	±2.5	PASS
Band4	1513	VH	NT	-2.39	-0.001364	±2.5	PASS
Band5	4132	VL	NT	-2.41	-0.002916	±2.5	PASS
Band5	4132	VN	NT	-2.62	-0.003170	±2.5	PASS
Band5	4132	VH	NT	-2.04	-0.002469	±2.5	PASS
Band5	4182	VL	NT	0.38	0.000454	±2.5	PASS
Band5	4182	VN	NT	0.23	0.000275	±2.5	PASS
Band5	4182	VH	NT	0.34	0.000407	±2.5	PASS
Band5	4233	VL	NT	1.02	0.001205	±2.5	PASS
Band5	4233	VN	NT	1.25	0.001476	±2.5	PASS
Band5	4233	VH	NT	0.80	0.000945	±2.5	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



## 7.2. Frequency Vs Temperature

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9262	NV	-30	-0.13	-0.000070	±2.5	PASS
Band2	9262	NV	-20	0.57	0.000308	±2.5	PASS
Band2	9262	NV	-10	-0.05	-0.000027	±2.5	PASS
Band2	9262	NV	0	0.94	0.000507	±2.5	PASS
Band2	9262	NV	10	1.29	0.000696	±2.5	PASS
Band2	9262	NV	20	0.83	0.000448	±2.5	PASS
Band2	9262	NV	30	0.91	0.000491	±2.5	PASS
Band2	9262	NV	40	1.31	0.000707	±2.5	PASS
Band2	9262	NV	50	1.26	0.000680	±2.5	PASS
Band2	9400	NV	-30	1.99	0.001059	±2.5	PASS
Band2	9400	NV	-20	2.09	0.001112	±2.5	PASS
Band2	9400	NV	-10	1.77	0.000941	±2.5	PASS
Band2	9400	NV	0	1.96	0.001043	±2.5	PASS
Band2	9400	NV	10	1.93	0.001027	±2.5	PASS
Band2	9400	NV	20	2.03	0.001080	±2.5	PASS
Band2	9400	NV	30	2.19	0.001165	±2.5	PASS
Band2	9400	NV	40	2.01	0.001069	±2.5	PASS
Band2	9400	NV	50	2.45	0.001303	±2.5	PASS
Band2	9538	NV	-30	0.99	0.000519	±2.5	PASS
Band2	9538	NV	-20	1.34	0.000702	±2.5	PASS
Band2	9538	NV	-10	1.53	0.000802	±2.5	PASS
Band2	9538	NV	0	1.54	0.000807	±2.5	PASS
Band2	9538	NV	10	1.83	0.000959	±2.5	PASS
Band2	9538	NV	20	1.11	0.000582	±2.5	PASS
Band2	9538	NV	30	2.12	0.001111	±2.5	PASS
Band2	9538	NV	40	1.03	0.000540	±2.5	PASS
Band2	9538	NV	50	2.49	0.001305	±2.5	PASS
Band4	1312	NV	-30	1.44	0.000841	±2.5	PASS
Band4	1312	NV	-20	1.88	0.001098	±2.5	PASS
Band4	1312	NV	-10	2.02	0.001180	±2.5	PASS
Band4	1312	NV	0	1.92	0.001121	±2.5	PASS
Band4	1312	NV	10	1.72	0.001004	±2.5	PASS
Band4	1312	NV	20	1.98	0.001156	±2.5	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (CSTC) Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com





Band4	1312	NV	30	1.92	0.001121	±2.5	PASS
Band4	1312	NV	40	2.10	0.001226	±2.5	PASS
Band4	1312	NV	50	2.37	0.001384	±2.5	PASS
Band4	1413	NV	-30	-0.31	-0.000179	±2.5	PASS
Band4	1413	NV	-20	-0.12	-0.000069	±2.5	PASS
Band4	1413	NV	-10	0.06	0.000035	±2.5	PASS
Band4	1413	NV	0	-0.11	-0.000063	±2.5	PASS
Band4	1413	NV	10	-0.16	-0.000092	±2.5	PASS
Band4	1413	NV	20	-0.16	-0.000092	±2.5	PASS
Band4	1413	NV	30	0.17	0.000098	±2.5	PASS
Band4	1413	NV	40	0.61	0.000352	±2.5	PASS
Band4	1413	NV	50	0.38	0.000219	±2.5	PASS
Band4	1513	NV	-30	-3.22	-0.001837	±2.5	PASS
Band4	1513	NV	-20	-2.73	-0.001558	±2.5	PASS
Band4	1513	NV	-10	-3.28	-0.001872	±2.5	PASS
Band4	1513	NV	0	-3.39	-0.001934	±2.5	PASS
Band4	1513	NV	10	-2.36	-0.001347	±2.5	PASS
Band4	1513	NV	20	-2.89	-0.001649	±2.5	PASS
Band4	1513	NV	30	-2.57	-0.001466	±2.5	PASS
Band4	1513	NV	40	-3.67	-0.002094	±2.5	PASS
Band4	1513	NV	50	-3.44	-0.001963	±2.5	PASS
Band5	4132	NV	-30	-1.98	-0.002396	±2.5	PASS
Band5	4132	NV	-20	-1.91	-0.002311	±2.5	PASS
Band5	4132	NV	-10	-2.20	-0.002662	±2.5	PASS
Band5	4132	NV	0	-1.73	-0.002093	±2.5	PASS
Band5	4132	NV	10	-2.10	-0.002541	±2.5	PASS
Band5	4132	NV	20	-2.00	-0.002420	±2.5	PASS
Band5	4132	NV	30	-2.11	-0.002553	±2.5	PASS
Band5	4132	NV	40	-1.81	-0.002190	±2.5	PASS
Band5	4132	NV	50	-1.90	-0.002299	±2.5	PASS
Band5	4182	NV	-30	0.24	0.000287	±2.5	PASS
Band5	4182	NV	-20	0.56	0.000670	±2.5	PASS
Band5	4182	NV	-10	0.09	0.000108	±2.5	PASS
Band5	4182	NV	0	0.32	0.000383	±2.5	PASS
Band5	4182	NV	10	0.45	0.000538	±2.5	PASS
Band5	4182	NV	20	0.19	0.000227	±2.5	PASS
Band5	4182	NV	30	0.16	0.000191	±2.5	PASS



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)  
 No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgs.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com





Band5	4182	NV	40	0.30	0.000359	±2.5	PASS
Band5	4182	NV	50	0.49	0.000586	±2.5	PASS
Band5	4233	NV	-30	0.65	0.000768	±2.5	PASS
Band5	4233	NV	-20	0.50	0.000591	±2.5	PASS
Band5	4233	NV	-10	0.62	0.000732	±2.5	PASS
Band5	4233	NV	0	0.70	0.000827	±2.5	PASS
Band5	4233	NV	10	0.06	0.000071	±2.5	PASS
Band5	4233	NV	20	1.35	0.001595	±2.5	PASS
Band5	4233	NV	30	1.12	0.001323	±2.5	PASS
Band5	4233	NV	40	-1.72	-0.002032	±2.5	PASS
Band5	4233	NV	50	1.83	0.002162	±2.5	PASS

The End

