

열 람 용

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교 정 성 적 서

CALIBRATION CERTIFICATE

경기도 이천시 마장면 서이천로 578번길 74
TEL : 031-645-6900, FAX : 031-645-6969



성적서발급번호(Certificate No) : IC-2019-49179

교 정 번 호(Calibration No) : C-2019-056950

페이지(page) : 1 of 9

1. 의뢰자 (Client)

- 기관명 (Name) : (주)에이치시티
- 주소 (Address) : 경기도 이천시 마장면 서이천로 578번길 74

2. 측정기 (Calibration Subject)

◇ 등록번호 : 232603

- 기기명 (Description) : SIGNAL GENERATOR
- 제작회사 및 형식(Manufacturer and Model Name) : ROHDE & SCHWARZ / SMB100A
- 기기번호 (Serial Number) : 177633

3. 교정일자 (Date of Calibration) : 2019.07.15

차기교정예정일자 : 2020.07.15
(The due date of next Calibration)

4. 교정환경 (Environment)

- 온도(Temperature) : (22.7 ± 0.1) °C - 습도(Humidity) : (48 ± 1) % R.H.
- 교정장소 (Location) : 고정표준실(Permanent Calibration Lab)

5. 측정표준의 소급성 (Traceability) ◇Field code : 40640(RF SIGNAL GENERATOR)

교정방법 및 소급성 서술 (Calibration method and/or brief description)

상기 기기는 고주파 신호 발생기의 교정절차(HCT-CS-124-40640)에 따라 국가측정표준기관으로부터 측정의 소급성이 확보된 아래의 표준장비를 이용하여 교정 되었음.

교정에 사용한 표준장비 명세 (List of used standards/specifications)

기기명 (Description)	제작회사 및 형식 (Manufacturer and Model Name)	기기번호 (Serial Number)	차기교정예정일자 (The due date of next Calibration)	교정기관 (Calibration laboratory)
SPECTRUM ANALYZER	H.P 8563EC	3946A00314	2020/03/05	(주)에이치시티
THERMAL POWER SENSOR	ROHDE & SCHWARZ NRP-Z55	130737	2020/02/06	ROHDE & SCHWARZ
MEASURING RECEIVER	H.P 8902A	3226A03461	2019/09/11	(주)에이치시티
RF FREQUENCY COUNTER	KEYSIGHT 53210A	MY50010879	2020/07/08	(주)에이치시티

6. 교정결과 (Calibration result)

: 교정결과 참조 (Refer to attachment)

7. 측정불확도 (Measurement uncertainty)

: 교정결과 참조 (Refer to attachment)

신뢰수준 약 95 %, $k = 2$ (Confidence level about 95 %, $k = 2$)

확 인 (affirmation)	작성자 (Measurements performed by)	승인자 (Approved by)
	성명 (Name) 박 민 지	
		직위 (Title) 기술책임자(Technical Cal. Manager) (정)
		성명 (Name) 이 승 찬

위 성적서는 국제시험기관인정협력체(International Laboratory Accreditation Cooperation) 상호인정협정(Mutual Recognition Arrangement)에 서명한 한국인정기구(KOLAS)로부터 공인 받은 분야의 교정결과입니다.

2019. 07. 15

한국인정기구 인정
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(주)에이치시티 대표이사
President, HCT Co., Ltd.



※ 이 성적서는 측정기의 정밀정확도에 영향을 미치는 요소(과부하, 온도, 습도 등)의 급격한 변화가 발생한 경우에는 무효가 됩니다.

※ 고객전용사이트(<http://www.callab.co.kr>)에서 성적서의 진위여부 확인이 가능합니다.

※ 성적서의 원본은 상단에 HCT홀로그램이 들어간 위변조 방지 용지에 인쇄되어 발급되며, 원본 복사시에는 복사본이라는 표시가 처리됩니다.

F-02P-02-008 (Rev.02)

■고객사 관리번호: HCT-R-242

교정성적서

CALIBRATION CERTIFICATE

경기도 이천시 마장면 서이천로 578번길 74
TEL : 031-645-6900, FAX : 031-645-6969

성적서발급번호(Certificate No) : IC-2018-56336

교정번호(Calibration No) : C-2018-065671

페이지(page) : 1 of 11

1. 의뢰자 (Client)

- 기관명 (Name) : (주)에이치시티
- 주소 (Address) : 경기도 이천시 마장면 서이천로 578번길 74

2. 측정기 (Calibration Subject)

◇ 등록번호 : 236636

- 기기명 (Description) : SPECTRUM ANALYZER
- 제작회사 및 형식 (Manufacturer and Model Name) : ROHDE & SCHWARZ / FSP30
- 기기번호 (Serial Number) : 836650/016

3. 교정일자 (Date of Calibration) : 2018.09.19

차기교정예정일자 : 2019.09.19
(The due date of next Calibration)

4. 교정환경 (Environment)

- 온도(Temperature) : (22.7 ± 0.4) °C - 습도(Humidity) : (45 ± 2) % R.H.
- 교정장소 (Location) : 고정표준실(Permanent Calibration Lab)

5. 측정표준의 소급성 (Traceability) ◇ Field code : 40641(RF SPECTRUM ANALYZER)

교정방법 및 소급성 서술 (Calibration method and/or brief description)

상기 기기는 고주파 스펙트럼 분석기의 교정절차(HCT-CS-125-40641)에 따라 국가측정표준기관으로부터 측정의 소급성이 확보된 아래의 표준장비를 이용하여 교정 되었음.

교정에 사용한 표준장비 명세 (List of used standards/specifications)

기기명 (Description)	제작회사 및 형식 (Manufacturer and Model Name)	기기번호 (Serial Number)	차기교정예정일자 (The due date of next Calibration)	교정기관 (Calibration laboratory)
PSG ANALOG SIGNAL GENERATOR	AGILENT E8257D	MY46130629	2018/11/01	(주)에이치시티
FUNCTION/ARBITRARY WAVEFORM GENERATOR	KEYSIGHT 33210A	MY48017752	2019/07/27	(주)에이치시티
E-SERIES AVG POWER SENSOR	AGILENT E9304A H18	MY53020018	2019/06/26	(주)에이치시티
RF FREQUENCY COUNTER	KEYSIGHT 53210A	MY50010881	2019/07/27	(주)에이치시티
POWER SENSOR	AGILENT 8487A	MY41092450	2019/01/22	Keysight Technologies

6. 교정결과 (Calibration result)

: 교정결과 참조 (Refer to attachment)

7. 측정불확도 (Measurement uncertainty)

: 교정결과 참조 (Refer to attachment)

신뢰수준 약 95 %, $k = 2$ (Confidence level about 95 %, $k = 2$)

확 인 (affirmation)	작성자 (Measurements performed by)		승인자 (Approved by)
	성명 (Name) 엄진용		직위 (Title) 기술책임자(Technical Cal. Manager) (정)
			성명 (Name) 이승찬

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2018. 09. 19

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President, HCT Co., Ltd.

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F-02P-02-008 (Rev.02)

■고객사 관리번호: HCT-R-206

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교 정 성 적 서

CALIBRATION CERTIFICATE

경기도 이천시 마장면 서이천로 578번길 74
TEL : 031-645-6900, FAX : 031-645-6969



성적서발급번호(Certificate No) : IC-2019-29693

교 정 번 호(Calibration No) : C-2019-034969

페이지(page) : 1 of 3

1. 의뢰자 (Client)

- 기관명 (Name) : (주)에이치시티
- 주소 (Address) : 경기도 이천시 마장면 서이천로 578번길 74

2. 측정기 (Calibration Subject)

◇ 등록번호 : 234104

- 기기명 (Description) : LOOP ANTENNA
- 제작회사 및 형식(Manufacturer and Model Name) : SCHWARZBECK / FMZB1513
- 기기번호 (Serial Number) : 1513-175

3. 교정일자 (Date of Calibration) : 2019.04.26

차기교정예정일자 : 2021.04.26
(The due date of next Calibration)

4. 교정환경 (Environment)

- 온도(Temperature) : (23.2 ± 0.3) °C - 습도(Humidity) : (46 ± 3) % R.H.
- 교정장소 (Location) : 교정표준실(Permanent Calibration Lab)

5. 측정표준의 소급성 (Traceability) ◇Field code : 40704(LOOP ANTENNA)

교정방법 및 소급성 서술 (Calibration method and/or brief description)

상기 기기는 루프 안테나의 교정절차(HCT-CS-237-40704)에 따라 국가측정표준기관으로부터 측정의 소급성이 확보된 아래의 표
준장비를 이용하여 교정 되었음.

교정에 사용한 표준장비 명세 (List of used standards/specifications)

기기명 (Description)	제작회사 및 형식 (Manufacturer and Model Name)	기기번호 (Serial Number)	차기교정예정일자 (The due date of next Calibration)	교정기관 (Calibration laboratory)
80 MHz FUNCTION/ARBITRARY WAVEFORM GENERATOR	AGILENT	MY40018384	2019/12/06	(주)에이치시티
	33250A			
BROADBAND POWER AMPLIFIER	ENI	365	2020/04/02	(주)에이치시티
	403LA			
DIGITAL MULTIMETER	H.P	2823A06614	2020/01/28	(주)에이치시티
	3458A			
VECTOR SIGNAL ANALYZER	H.P	3416A02750	2019/12/10	(주)에이치시티
	89441A			
STANDARD LOOP ANTENNA	한국표준과학연구원	H01625	교정불필요	
	HCT-0001			

6. 교정결과 (Calibration result)

: 교정결과 참조 (Refer to attachment)

7. 측정불확도 (Measurement uncertainty)

: 교정결과 참조 (Refer to attachment)

신뢰수준 약 95 %, $k = 2$ (Confidence level about 95 %, $k = 2$)

확 인 (affirmation)	작성자 (Measurements performed by)	승인자 (Approved by)
	성명 (Name) 안 상 호	직위 (Title) 기술책임자(Technical Cal. Manager) (정)
		성명 (Name) 이 승 찬

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2019. 04. 26

한국인정기구 인정
Accredited by KOLAS, Republic of KOREA

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President, HCT Co., Ltd.



(주) 이 성적서는 측정기의 정밀정확도에 영향을 미치는 요소(과부하, 온도, 습도 등)의 급격한 변화가 발생한 경우에는 무효가 됩니다.

※ 고객전용사이트(<http://www.callab.co.kr>)에서 성적서의 진위여부 확인이 가능합니다.

※ 성적서의 원본은 상단에 HCT홀로그램이 들어간 위변조 방지 용지에 인쇄되어 발급되며, 원본 복사시에는 복사본이라는 표시가 처리됩니다.

F-02P-02-008 (Rev.02)

■고객사 관리번호: HCT-R-180

교정성적서
CALIBRATION CERTIFICATE

3252/3

한국산업기술시험원 경기도 안산시 상록구 해안로 723 TEL : 031-500-0217 FAX : 031-500-0389		성적서 번호 : 18-050788-01-1 Certificate No. 페이지 (1) / (총 3) Page of Pages	 	
1. 의뢰자 (Client) 기관명 (Name) : (주)에이치시티 주소 (Address) : 경기도 이천시 마장면 서이천로578번길 74 2. 측정기 (Calibration Subject) 기기명 (Description) : 하이브리드 안테나 (Hybrid Antenna) 제작회사 및 형식 (Manufacturer and Model Name) : Schwarzbeck / VULB9168 기기번호 (Serial Number) : 00895 3. 교정일자 (Date of Calibration) : 2018년 08월 31일 4. 교정환경 (Environment) 온도 (Temperature) : N.A. 습도 (Humidity) : N.A. 교정장소 (Location) : ☒ 고정표준실 (KTL Lab.) ☐ 이동교정 (Mobile Lab.) ☐ 현장교정 (On Site Calibration) 5. 측정표준의 소급성 (Traceability) 교정방법 및 소급성 서술 (Calibration method and/or brief description) : 위의 기기는 바이코넨 안테나, 대수주기 안테나의 교정업무기준(CP801-40703-2, CP801-40703-3)에 따라 국가측정표준기관으로부터 소급성이 유지된 표준기를 사용하여 교정되었음. 교정에 사용한 표준장비 명세 (List of used standards/specifications)				
기기명 Description	제작회사 및 형식 Manufacturer and Model	기기번호 Serial Number	차기교정예정일자 The due date of next Calibration	교정기관 Calibration Laboratory
N-TYPE CALIBRATION KIT	H.P / 85054B	3101A00656	2018. 10. 25	한국표준과학연구원
Attenuator	AGILENT / 8491B	51854	2019. 03. 23	한국표준과학연구원
ATTENUATOR SET	WEINSCHEL / 503A	AS4-862	2019. 03. 12	한국산업기술시험원
Network Analyzer	KEYSIGHT / E5061B	MY49608606	2019. 02. 19	한국산업기술시험원
6. 교정결과 (Calibration results) : 교정결과 참조 7. 측정불확도 (Measurement uncertainty) : 교정결과 참조				
확인 (Affirmation)	작성자 (Measurements performed by) 성명 (Name) : 이재석	승인자 (Approved by) 직위 (Title) : 기술책임자 성명 (Name) : 이시우		
위 성적서는 국제시험기관인정협력체(International Laboratory Accreditation Cooperation) 상호인정협정(Mutual Recognition Arrangement)에 서명한 한국인정기구(KOLAS)로부터 공인받은 분야의 교정결과입니다. (The above calibration certificate is the accredited calibration items by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.)				
2018년 08월 31일 한국인정기구 인정 Accredited by KOLAS, Republic of KOREA 한국산업기술시험원 Korea Testing Laboratory				
(주) 이 성적서는 측정기의 정밀정확도에 영향을 미치는 요소(과부하, 온도, 습도 등)의 급격한 변화가 발생한 경우에는 무효가 됩니다. (NOTE) If any significant instability or other adverse factor(overload, temperature, humidity etc) manifests itself before, during or after calibration, and is likely to affect the validity of the calibration.				

FP812-01-01

※ 위 마크는 추후 전자확인용 대조 프로그램에서 원본대조시 사용되는 2D코드입니다.

Certificate of Compliance

Certificate No: 4205118C-18050101

Manufacturer: OML, Inc.

Model/Part No: M08RH

Serial/ID No: 18050101

Description: WR-08 Horn Antenna

Date of Test: May 1, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

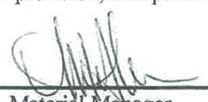
As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

This certificate shall not be reproduced, except in full, without the written approval of OML.


Mitzi Chow, Material Manager

05/01/2018

Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Certificate of Compliance

Certificate No: 4205118C-18050102

Manufacturer: OML, Inc.

Model/Part No: M08RH

Serial/ID No: 18050102

Description: WR-08 Horn Antenna

Date of Test: May 1, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

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Mitzi Chow, Material Manager

05/01/2018
Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Certificate of Compliance

Certificate No: 4205118A-18042302

Manufacturer: OML, Inc.

Model/Part No: M19RH

Serial/ID No: 18042302

Description: WR-19 Horn Antenna

Date of Test: April 23, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

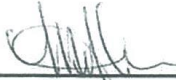
As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

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Mitzi Chow, Material Manager

04/23/2018

Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Certificate of Compliance

Certificate No: 4205118B-18042301

Manufacturer: OML, Inc.

Model/Part No: M12RH

Serial/ID No: 18042301

Description: WR-12 Horn Antenna

Date of Test: April 23, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

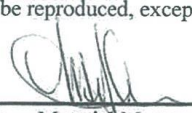
As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

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Mitzi Chow, Material Manager

04/23/2018

Date

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300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Rev. 01/2014

Certificate of Compliance

Certificate No: 4205118A-18042301

Manufacturer: OML, Inc.

Model/Part No: M19RH

Serial/ID No: 18042301

Description: WR-19 Horn Antenna

Date of Test: April 23, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

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Mitzi Chow, Material Manager

04/23/2018

Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Form 00001 Rev. 1
Date: 01-12

Certificate of Compliance

Certificate No: 4205118B-18042302

Manufacturer: OML, Inc.

Model/Part No: M12RH

Serial/ID No: 18042302

Description: WR-12 Horn Antenna

Date of Test: April 23, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

As Shipped: At the completion of the test, the product **COMPLIED** with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

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Mitzi Chow, Material Manager

04/23/2018

Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Certificate of Compliance

Certificate No: 4205118D-18050102

Manufacturer: OML, Inc.

Model/Part No: M05RH

Serial/ID No: 18050102

Description: WR-05 Horn Antenna

Date of Test: May 1, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

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Mitzi Chow, Material Manager

05/01/2018

Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Form OML-001 Rev. 1

Certificate of Compliance

Certificate No: 4205118D-18050101

Manufacturer: OML, Inc.

Model/Part No: M05RH

Serial/ID No: 18050101

Description: WR-05 Horn Antenna

Date of Test: May 1, 2018

Temperature: (23 +/- 5) deg C

Humidity: 20 to 65% RH

Procedure:

This certifies that the above product was tested in compliance with OML specifications using applicable OML's procedures.

As Received : Factory Tested - No incoming data available.

As Shipped: At the completion of the test, the product COMPLIED with the performance capability.

Remarks:

Traceability Information: Traceability is to national standards administered by U.S. NIST, NRC Canada, Euromet members (NPL, PTB, BNM, etc.) or other recognized standards laboratories. Some measurements are traceable to natural physical constants, consensus standards or ratio type measurements. Supporting documentation relative to traceability is available for review by appointment.

In the absence of power standards above 110 GHz, power measurements and conversion loss measurements above 110 GHz are to confirm operation functionality and traceable only to OML.

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Mitzi Chow, Material Manager

05/01/2018

Date

OML Inc.

300 Digital Drive, Morgan Hill, CA 95037 USA Tel. (408) 779 2698 Fax (408) 778 0491

Form 00027 Rev. 1
04/01/02

시험성적서

TEST CERTIFICATE

경기도 이천시 마장면 서이천로 578번길 74
Tel : 031-645-6900, Fax : 031-645-6969

성적서발급번호(Certificate No) : IC-2019-45756

시험번호(Test No) : C-2019-053006

페이지(page) : 1 of 3

1. 의뢰자 (Client)

- 기관명 (Name) : (주)에이치시티
- 주소 (Address) : 경기도 이천시 마장면 서이천로 578번길 74

2. 시험대상품목 (Test Subject)

◇ 등록번호 : 288237

- 기기명 (Description) : HARMONIC MIXER
- 제작회사 및 형식(Manufacturer and Model Name) : OML / OML G BAND
- 기기번호 (Serial Number) : M05HWD

3. 시험일자 (Date of Test)

: 2019.07.22

4. 시험환경 (Environment)

- 온도(Temperature) : (23.5 ± 0.3) °C
- 습도(Humidity) : (49 ± 3) % R.H.

5. 시험방법 (Test method used)

상기 기기는 고주파 스펙트럼 분석기의 교정절차(HCT-CS-125-40641)에 따라 국가측정표준기관으로부터 측정의 소급성이 확보된 아래의 표준장비를 이용하여 교정 되었음.

시험에 사용한 표준장비 명세 (List of used standards/specifications)

기기명 (Description)	제작회사 및 형식 (Manufacturer and Model Name)	기기번호 (Serial Number)	차기교정예정일자 (The due date of next Calibration)	교정기관 (Calibration laboratory)
EXG ANALOG SIGNAL GENERATOR	KEYSIGHT N5173B	MY53270544	2019/10/04	(주)에이치시티
WR-05 MULTIPLIER SOURCE MODULE	OML S05MS-A	160419-1	2020/07/22	(주)에이치시티
ERICKSON POWER METER	VDI PM5	394V	교정불필요	

6. 시험결과 (Test result)

: 시험결과 참조 (Refer to attachment)

7. 측정불확도 (Measurement uncertainty)

: 시험결과 참조 (Refer to attachment)

(Confidence level about 95 %, $k = 2$)

확 인 (Affirmation)	작성자 (Tested by)	승인자 (Approved by)
	성명 (Name) : 박민지	직위 (Title) 기술책임자(Technical Manager) 성명 (Name) 이승찬

2019. 07. 22

HCT

(주)에이치시티 대표이사
President, HCT Co., Ltd.

본 시험결과는 의뢰자가 제시한 시료 및 시료명에만 한정됩니다.

F-02P-02-023 (Rev.00)

HCT CO., LTD.

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

TEL : + 82 31 645 6300 FAX : + 82 31 645 6401

www.hct.co.kr

시험결과

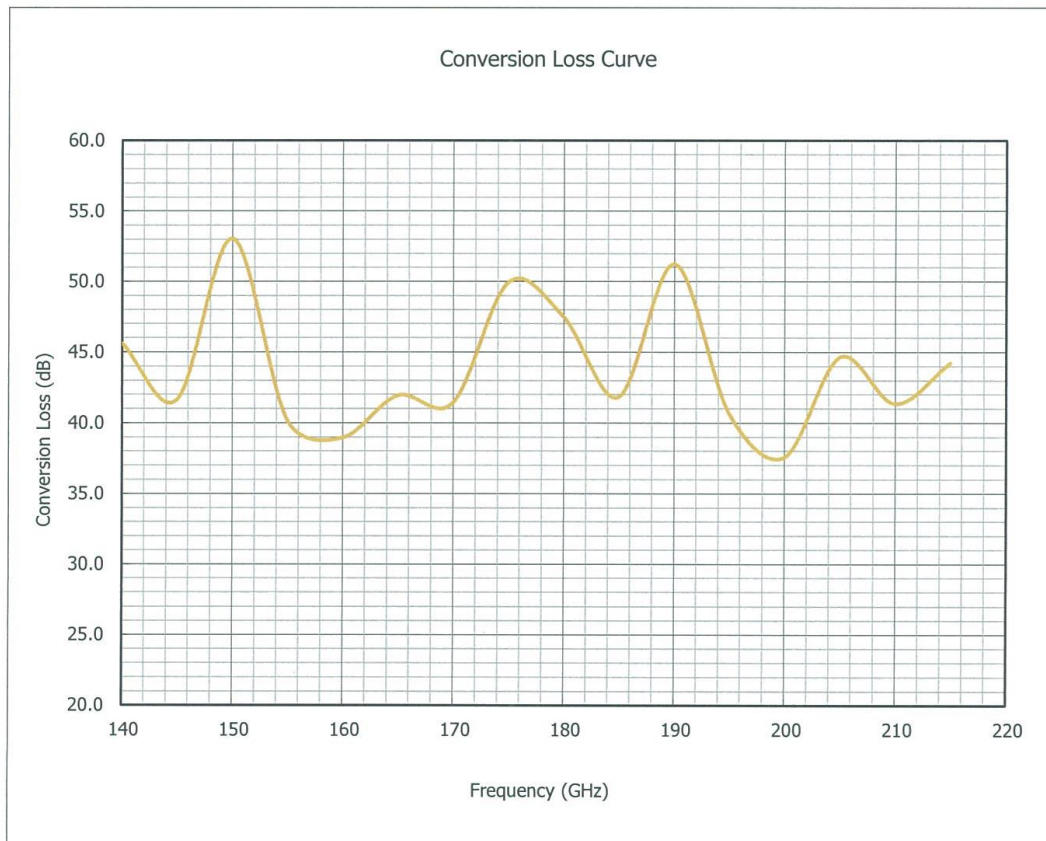
TEST RESULT

성적서발급번호(Certificate No) : IC-2019-45756

시험번호(Test No): C-2019-053006

페이지(page) : 2 of 3

※ Measurement Curve



F-02P-02-023 (Rev.00)

시험 결과

TEST RESULT

성적서발급번호(Certificate No) : IC-2019-45756

시험번호(Test No): C-2019-053006

페이지(page) : 3 of 3

1. Conversion Loss Calibration

Frequency	Measured Value	Measurement Uncertainty
140 GHz	45.60 dB	-
145 GHz	41.64 dB	-
150 GHz	53.06 dB	-
155 GHz	40.14 dB	-
160 GHz	38.96 dB	-
165 GHz	41.94 dB	-
170 GHz	41.43 dB	-
175 GHz	49.95 dB	-
180 GHz	47.47 dB	-
185 GHz	41.83 dB	-
190 GHz	51.23 dB	-
195 GHz	40.64 dB	-
200 GHz	37.58 dB	-
205 GHz	44.65 dB	-
210 GHz	41.35 dB	-
215 GHz	44.23 dB	-
220 GHz	45.21 dB	-

끝.

시험 성적서

TEST CERTIFICATE

경기도 이천시 마장면 서이천로 578번길 74
Tel : 031-645-6900, Fax : 031-645-6969

성적서발급번호(Certificate No) : IC-2019-45758

시험 번호(Test No) : C-2019-053008

페이지(page) : 1 of 2

1. 의뢰자 (Client)

- 기관명 (Name) : (주)에이치시티
- 주소 (Address) : 경기도 이천시 마장면 서이천로 578번길 74

2. 시험대상품목 (Test Subject)

◇ 등록번호 : 288232

- 기기명 (Description) : WR-05 MULTIPLIER SOURCE MODULE
- 제작회사 및 형식(Manufacturer and Model Name) : OML / S05MS-A
- 기기번호 (Serial Number) : 160419-1

3. 시험일자 (Date of Test)

: 2019.07.22

4. 시험환경 (Environment)

- 온도(Temperature) : (23.0 ± 0.3) °C - 습도(Humidity) : (47 ± 3) % R.H.

5. 시험방법 (Test method used)

상기 기기는 고주파 신호 발생기의 교정절차(HCT-CS-124-40640)에 따라 국가측정표준기관으로부터 측정의 소급성이 확보된 아래의 표준장비를 이용하여 교정 되었음.

시험에 사용한 표준장비 명세 (List of used standards/specifications)

기기명 (Description)	제작회사 및 형식 (Manufacturer and Model Name)	기기번호 (Serial Number)	차기교정예정일자 (The due date of next Calibration)	교정기관 (Calibration laboratory)
EXG ANALOG SIGNAL GENERATOR	KEYSIGHT N5173B	MY53270544	2019/10/04	(주)에이치시티
ERICKSON POWER METER	VDI PM5	394V	교정불필요	

6. 시험결과 (Test result)

: 시험결과 참조 (Refer to attachment)

7. 측정불확도 (Measurement uncertainty)

: 시험결과 참조 (Refer to attachment)

(Confidence level about 95 %, $k = 2$)

확 인 (Affirmation)	작성자 (Tested by)	승인자 (Approved by)
	성명 (Name) : 박민지	직위 (Title) 기술책임자(Technical Manager) 성명 (Name) 이승찬

2019. 07. 22

HCT

(주)에이치시티 대표이사
President, HCT Co., Ltd.

본 시험결과는 의뢰자가 제시한 시료 및 시료명에만 한정됩니다.

F-02P-02-023 (Rev.00)

시험결과

TEST RESULT

성적서발급번호(Certificate No) : IC-2019-45758

시험번호(Test No): C-2019-053008

페이지(page) : 2 of 2

1. RF Output Level Calibration

Multiplier	Frequency	Attenuator	Measured Value	Measurement Uncertainty
Model : S05MS-A 140 GHz ~ 220 GHz	140 GHz	0 dB	-7.46 dBm	-
	145 GHz	0 dB	-6.26 dBm	-
	150 GHz	0 dB	-7.20 dBm	-
	155 GHz	0 dB	-7.37 dBm	-
	160 GHz	0 dB	-6.98 dBm	-
	165 GHz	0 dB	-6.17 dBm	-
	170 GHz	0 dB	-6.56 dBm	-
	175 GHz	0 dB	-6.51 dBm	-
	180 GHz	0 dB	-7.28 dBm	-
	185 GHz	0 dB	-6.95 dBm	-
	190 GHz	0 dB	-5.44 dBm	-
	195 GHz	0 dB	-8.70 dBm	-
	200 GHz	0 dB	-9.19 dBm	-
	205 GHz	0 dB	-9.47 dBm	-
	210 GHz	0 dB	-7.83 dBm	-
	215 GHz	0 dB	-6.19 dBm	-
	220 GHz	0 dB	-13.54 dBm	-

끝.