[열람용]

[재발행]

교 정 성 적 서
CALIBRATION CERTIFICATE

성 적 서 번 호 : 140514Y189-1
(Certificate No)
관 리 번 호 : 9QE5-Y08745
(Control No)

경기도 화성시 동탄면 영천로 133
Tel:031-379-5114, Fax:031-379-5115

1. 의 뢰 자 (Client)
   기 관 명 (Name) : (주)씨티케이
   주 소 (Address) : 경기도 용인시 처인구 예직로 113 (호동)

2. 측 정 기 (Calibration Subject)
   기 기 명 (Description) : EMI TEST RECEIVER
   제작회사 및 형식 (Manufacture & Model Name) : ROHDE&SCHWARZ / ESU
   기기번호 (Serial Number) : 100336

3. 교정일자 (Date of Calibration) : 2014. 05. 15

4. 교정환경 (Environment Conditions)
   온 도 (Temperature) : (23.1 ± 0.3) ℃ 습도(Humidity) : (50 ± 2) % R.H.
   교정장소 (Location) : ■ 고정표준실(Perm. Lab.) □ 이동교정(Mobile Lab.) □ 현장교정(On Site Calibration)

5. 측정표준의 소급성 (Traceability)
   교정방법 및 소급성 서술 (Calibration method and /or brief description) :
   상기 기기는 EMC 및 EMI 수신기의 교정절차서(SICT-T100-40614) 및 CISPR16-1 를 참조하여 국가 측정표준기관으로 부터 부터 측정의 소급성이 확보된 아래의 표준장비를 이용하여 교정되었음.

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

기기명 Description	제작회사 및 형식 Manufacture and Model	기기번호 Serial Number	차기교정예정일자 The due date of next Cal.	교정기관 Calibration Lab.
POWER SENSOR	H.P / 8481A	US37292782	2014. 06. 20	SICT
GPS RECEIVER	ODETICS / 425	4250045-9447	2014. 07. 04	KRISS
POWER SENSOR	H.P / 8487A	GG00004154	2015. 02. 11	AGILENT
RF STEP ATTENUATOR	ROHDE&SCHWARZ / RSP	860179/009	2014. 06. 11	SICT
TYPE N CALIBRATION KIT	H.P / 85032B	3217A09509	2015. 05. 08	AGILENT
POWER SENSOR	H.P / 8482A	US37290759	2014. 11. 25	SICT
S-PARAMETER NETWORK ANALYZER	AGILENT / 8753ES	MY40001021	2014. 09. 09	SICT
POWER SPLITTER	H.P / 11667A	13570	2014. 07. 25	SICT
MICROWAVE FREQUENCY COUNTER	H.P / 5351B	3049A01806	2015. 05. 10	SICT
POWER SPLITTER	AGILENT / 11667B	58517	2014. 08. 17	AGILENT
EMI CALIBRATOIN PULSE GENERATOR	SCHWARZBECKMESS / IGUU29	2916232	2014. 08. 26	KRISS
MXG ANALOG SIGNAL GENERATOR	AGILENT / N5183A	MY50141731	2014. 12. 20	SICT

6. 교정결과 (Calibration Results) : 교정결과 참조 (Refer attached file)

7. 측정불확도 (Measurement Uncertainty) : 교정결과 참조 (Refer attached file)

확 인 (Affirmation)	작성자 (Measurements performed by)	승 인 자 (Approved by)
	연락처 (Tel No.) : 031-379-5127	직 위 (Title) : 기술책임자(정)
	성 명 (Name) : 정화진	성 명 (Name) : 김길식

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)

한국인정기구 인정
Accredited by KOLAS, Republic of Korea

교정기술원㈜ 대표이사
Institute of Calibration & Technology Co., Ltd.

㈜ 이 성적서는 측정기의 정밀정확도에 영향을 미치는 요소(과부하,온도,습도 등)의 급격한 변화가 발생한 경우에는 무효[illegible]
(Note) If any significant instability or other adverse factor(overload,temperature,humidity etc.) manifests itself before, during or after calibration, it is likely to affect the validity of the calibration.

자산번호(Property No.) : E2-136

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1. Reference Frequency Accuracy

Nominal Value	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
10 MHz	9.999 999 9 MHz	59 mHz

※ 국가교정기관지정제도 운영요령 제41조 관련주기 : 12 개월

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2. Input Impedance - at RF Input 1

Frequency	RF Attenuation	Nominal Value	Measured Value SWR	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
1 MHz	0 dB	≤ 2.0	1.13	0.06
45 MHz	0 dB	≤ 2.0	1.40	0.06
50 MHz	0 dB	≤ 2.0	1.33	0.06
130 MHz	0 dB	≤ 2.0	1.19	0.06
200 MHz	0 dB	≤ 2.0	1.08	0.06
500 MHz	0 dB	≤ 2.0	1.15	0.06
1 000 MHz	0 dB	≤ 2.0	1.33	0.06
2 000 MHz	0 dB	≤ 2.0	1.36	0.06
3 000 MHz	0 dB	≤ 2.0	1.27	0.06
4 000 MHz	0 dB	≤ 2.0	1.11	0.06
5 000 MHz	0 dB	≤ 2.0	1.09	0.06
6 000 MHz	0 dB	≤ 2.0	1.19	0.06
1 MHz	10 dB	≤ 1.2	1.01	0.06
45 MHz	10 dB	≤ 1.2	1.05	0.06
50 MHz	10 dB	≤ 1.2	1.04	0.06
130 MHz	10 dB	≤ 1.2	1.04	0.06
200 MHz	10 dB	≤ 1.2	1.04	0.06
500 MHz	10 dB	≤ 1.2	1.06	0.06
1 000 MHz	10 dB	≤ 1.2	1.09	0.06
2 000 MHz	10 dB	≤ 1.2	1.10	0.06
3 000 MHz	10 dB	≤ 1.2	1.20	0.06
4 000 MHz	10 dB	≤ 1.2	1.11	0.06
5 000 MHz	10 dB	≤ 1.2	1.16	0.06
6 000 MHz	10 dB	≤ 1.2	1.18	0.06

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3. Response to Sine-wave Voltage

3.1 Frequency Response of Average Detector

Frequency	STD Value	Measured Value		Measurement Uncertainty
		DUT reading	Offset	(C.L. : Approx. 95 %, k = 2)
100 kHz	90.07 dBμV	90.2 dBμV	0.1 dB	0.2 dB
300 kHz	89.91 dBμV	89.8 dBμV	-0.1 dB	0.2 dB
500 kHz	89.96 dBμV	90.1 dBμV	0.1 dB	0.2 dB
1 MHz	90.10 dBμV	90.0 dBμV	-0.1 dB	0.2 dB
3 MHz	90.09 dBμV	89.9 dBμV	-0.2 dB	0.2 dB
5 MHz	90.10 dBμV	90.1 dBμV	0.0 dB	0.2 dB
10 MHz	90.11 dBμV	90.1 dBμV	0.0 dB	0.2 dB
30 MHz	89.82 dBμV	89.9 dBμV	0.1 dB	0.2 dB
50 MHz	89.75 dBμV	89.8 dBμV	0.0 dB	0.2 dB
100 MHz	89.63 dBμV	89.8 dBμV	0.2 dB	0.2 dB
300 MHz	89.51 dBμV	89.7 dBμV	0.1 dB	0.2 dB
500 MHz	89.37 dBμV	89.5 dBμV	0.1 dB	0.2 dB
1 GHz	89.13 dBμV	89.2 dBμV	0.1 dB	0.2 dB
2 GHz	88.82 dBμV	89.0 dBμV	0.2 dB	0.2 dB
3 GHz	88.43 dBμV	88.6 dBμV	0.2 dB	0.2 dB
4 GHz	88.25 dBμV	89.0 dBμV	0.8 dB	0.2 dB
5 GHz	88.24 dBμV	88.6 dBμV	0.4 dB	0.2 dB
6 GHz	87.74 dBμV	88.4 dBμV	0.6 dB	0.2 dB
7 GHz	87.87 dBμV	88.5 dBμV	0.6 dB	0.2 dB
8 GHz	87.79 dBμV	88.1 dBμV	0.3 dB	0.2 dB
9 GHz	87.70 dBμV	87.9 dBμV	0.2 dB	0.2 dB
10 GHz	87.61 dBμV	87.5 dBμV	-0.1 dB	0.2 dB
11 GHz	87.25 dBμV	87.9 dBμV	0.6 dB	0.2 dB
12 GHz	87.16 dBμV	87.3 dBμV	0.2 dB	0.2 dB
13 GHz	87.13 dBμV	86.6 dBμV	-0.5 dB	0.2 dB
14 GHz	87.09 dBμV	87.1 dBμV	0.0 dB	0.2 dB
15 GHz	86.51 dBμV	86.9 dBμV	0.4 dB	0.2 dB
16 GHz	86.53 dBμV	86.9 dBμV	0.4 dB	0.2 dB
17 GHz	86.62 dBμV	86.4 dBμV	-0.3 dB	0.2 dB
18 GHz	85.90 dBμV	86.2 dBμV	0.3 dB	0.2 dB

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3.1 Frequency Response of Average Detector - continued

Frequency	STD Value	Measured Value		Measurement Uncertainty
		DUT reading	Offset	(C.L. : Approx. 95 %, k = 2)
19 GHz	87.94 dBµV	87.9 dBµV	0.0 dB	0.2 dB
20 GHz	86.38 dBµV	85.4 dBµV	-1.0 dB	0.2 dB
21 GHz	86.13 dBµV	85.8 dBµV	-0.3 dB	0.2 dB
22 GHz	86.56 dBµV	86.0 dBµV	-0.5 dB	0.2 dB
23 GHz	86.31 dBµV	86.2 dBµV	-0.1 dB	0.2 dB
24 GHz	85.63 dBµV	85.5 dBµV	-0.2 dB	0.2 dB
25 GHz	86.09 dBµV	86.0 dBµV	-0.1 dB	0.2 dB
26 GHz	85.84 dBµV	85.8 dBµV	-0.1 dB	0.2 dB
27 GHz	85.43 dBµV	85.3 dBµV	-0.2 dB	0.2 dB
28 GHz	85.93 dBµV	85.7 dBµV	-0.2 dB	0.2 dB
29 GHz	85.90 dBµV	85.8 dBµV	-0.1 dB	0.2 dB
30 GHz	84.75 dBµV	85.0 dBµV	0.3 dB	0.2 dB
31 GHz	85.26 dBµV	85.4 dBµV	0.2 dB	0.2 dB
32 GHz	84.44 dBµV	85.1 dBµV	0.6 dB	0.2 dB
33 GHz	84.40 dBµV	84.5 dBµV	0.1 dB	0.2 dB
34 GHz	84.61 dBµV	84.7 dBµV	0.1 dB	0.2 dB
35 GHz	85.78 dBµV	86.2 dBµV	0.5 dB	0.2 dB
36 GHz	85.24 dBµV	85.2 dBµV	0.0 dB	0.2 dB
37 GHz	84.15 dBµV	84.3 dBµV	0.1 dB	0.2 dB
38 GHz	85.23 dBµV	86.0 dBµV	0.7 dB	0.2 dB
39 GHz	85.27 dBµV	85.4 dBµV	0.1 dB	0.2 dB
40 GHz	83.19 dBµV	84.4 dBµV	1.2 dB	0.2 dB

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3.2 Frequency Response of Peak Detector

Frequency	STD Value	Measured Value		Measurement Uncertainty
		DUT reading	Offset	(C.L. : Approx. 95 %, k = 2)
100 kHz	90.07 dBμV	90.2 dBμV	0.1 dB	0.2 dB
300 kHz	89.91 dBμV	89.9 dBμV	-0.1 dB	0.2 dB
500 kHz	89.96 dBμV	90.1 dBμV	0.1 dB	0.2 dB
1 MHz	90.10 dBμV	90.0 dBμV	-0.1 dB	0.2 dB
3 MHz	90.09 dBμV	89.9 dBμV	-0.1 dB	0.2 dB
5 MHz	90.10 dBμV	90.1 dBμV	0.0 dB	0.2 dB
10 MHz	90.11 dBμV	90.1 dBμV	0.0 dB	0.2 dB
30 MHz	89.82 dBμV	89.9 dBμV	0.1 dB	0.2 dB
50 MHz	89.75 dBμV	89.8 dBμV	0.1 dB	0.2 dB
100 MHz	89.63 dBμV	89.8 dBμV	0.2 dB	0.2 dB
300 MHz	89.51 dBμV	89.7 dBμV	0.2 dB	0.2 dB
500 MHz	89.37 dBμV	89.5 dBμV	0.1 dB	0.2 dB
1 GHz	89.13 dBμV	89.3 dBμV	0.1 dB	0.2 dB
2 GHz	88.82 dBμV	89.0 dBμV	0.2 dB	0.2 dB
3 GHz	88.43 dBμV	88.6 dBμV	0.2 dB	0.2 dB
4 GHz	88.25 dBμV	89.0 dBμV	0.8 dB	0.2 dB
5 GHz	88.24 dBμV	88.7 dBμV	0.4 dB	0.2 dB
6 GHz	87.74 dBμV	88.4 dBμV	0.7 dB	0.2 dB
7 GHz	87.87 dBμV	88.5 dBμV	0.6 dB	0.2 dB
8 GHz	87.79 dBμV	88.1 dBμV	0.3 dB	0.2 dB
9 GHz	87.70 dBμV	87.9 dBμV	0.2 dB	0.2 dB
10 GHz	87.61 dBμV	87.5 dBμV	-0.1 dB	0.2 dB
11 GHz	87.25 dBμV	87.9 dBμV	0.7 dB	0.2 dB
12 GHz	87.16 dBμV	87.4 dBμV	0.2 dB	0.2 dB
13 GHz	87.13 dBμV	86.7 dBμV	-0.4 dB	0.2 dB
14 GHz	87.09 dBμV	87.2 dBμV	0.1 dB	0.2 dB
15 GHz	86.51 dBμV	87.0 dBμV	0.5 dB	0.2 dB
16 GHz	86.53 dBμV	86.9 dBμV	0.4 dB	0.2 dB
17 GHz	86.62 dBμV	86.4 dBμV	-0.2 dB	0.2 dB
18 GHz	85.90 dBμV	86.2 dBμV	0.3 dB	0.2 dB

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3.2 Frequency Response of Peak Detector - continued

Frequency	STD Value	Measured Value		Measurement Uncertainty
		DUT reading	Offset	(C.L. : Approx. 95 %, k = 2)
19 GHz	86.51 dBμV	86.1 dBμV	-0.4 dB	0.2 dB
20 GHz	86.38 dBμV	85.6 dBμV	-0.8 dB	0.2 dB
21 GHz	86.13 dBμV	86.0 dBμV	-0.1 dB	0.2 dB
22 GHz	86.56 dBμV	86.2 dBμV	-0.3 dB	0.2 dB
23 GHz	86.31 dBμV	86.4 dBμV	0.1 dB	0.2 dB
24 GHz	85.63 dBμV	85.7 dBμV	0.1 dB	0.2 dB
25 GHz	86.09 dBμV	86.2 dBμV	0.1 dB	0.2 dB
26 GHz	85.84 dBμV	86.0 dBμV	0.2 dB	0.2 dB
27 GHz	85.43 dBμV	85.5 dBμV	0.1 dB	0.2 dB
28 GHz	85.93 dBμV	86.0 dBμV	0.1 dB	0.2 dB
29 GHz	85.90 dBμV	86.1 dBμV	0.2 dB	0.2 dB
30 GHz	84.75 dBμV	85.4 dBμV	0.7 dB	0.2 dB
31 GHz	85.26 dBμV	85.8 dBμV	0.5 dB	0.2 dB
32 GHz	84.44 dBμV	85.4 dBμV	1.0 dB	0.2 dB
33 GHz	84.40 dBμV	84.9 dBμV	0.5 dB	0.2 dB
34 GHz	84.61 dBμV	85.1 dBμV	0.5 dB	0.2 dB
35 GHz	85.78 dBμV	86.6 dBμV	0.8 dB	0.2 dB
36 GHz	85.24 dBμV	85.7 dBμV	0.4 dB	0.2 dB
37 GHz	84.15 dBμV	84.8 dBμV	0.6 dB	0.2 dB
38 GHz	85.23 dBμV	86.4 dBμV	1.2 dB	0.2 dB
39 GHz	85.27 dBμV	86.0 dBμV	0.7 dB	0.2 dB
40 GHz	83.19 dBμV	85.1 dBμV	1.9 dB	0.2 dB

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3.3 Frequency Response of Quasi-Peak Detector

Frequency	STD Value	Measured Value		Measurement Uncertainty
		DUT reading	Offset	(C.L. : Approx. 95 %, k = 2)
100 kHz	90.07 dBµV	90.0 dBµV	0.0 dB	0.2 dB
300 kHz	89.91 dBµV	89.9 dBµV	-0.1 dB	0.2 dB
500 kHz	89.96 dBµV	90.1 dBµV	0.1 dB	0.2 dB
1 MHz	90.10 dBµV	90.0 dBµV	-0.1 dB	0.2 dB
3 MHz	90.09 dBµV	89.9 dBµV	-0.1 dB	0.2 dB
5 MHz	90.10 dBµV	90.1 dBµV	0.0 dB	0.2 dB
10 MHz	90.11 dBµV	90.1 dBµV	0.0 dB	0.2 dB
30 MHz	89.82 dBµV	89.8 dBµV	0.0 dB	0.2 dB
50 MHz	89.75 dBµV	89.8 dBµV	0.0 dB	0.2 dB
100 MHz	89.63 dBµV	89.7 dBµV	0.1 dB	0.2 dB
300 MHz	89.51 dBµV	89.6 dBµV	0.1 dB	0.2 dB
500 MHz	89.37 dBµV	89.4 dBµV	0.1 dB	0.2 dB
1 GHz	89.13 dBµV	89.2 dBµV	0.1 dB	0.2 dB
2 GHz	88.82 dBµV	88.9 dBµV	0.1 dB	0.2 dB
3 GHz	88.43 dBµV	88.6 dBµV	0.1 dB	0.2 dB
4 GHz	88.25 dBµV	89.0 dBµV	0.7 dB	0.2 dB
5 GHz	88.24 dBµV	88.6 dBµV	0.3 dB	0.2 dB
6 GHz	87.74 dBµV	88.3 dBµV	0.6 dB	0.2 dB
7 GHz	87.87 dBµV	88.4 dBµV	0.5 dB	0.2 dB
8 GHz	87.79 dBµV	88.0 dBµV	0.2 dB	0.2 dB
9 GHz	87.70 dBµV	87.8 dBµV	0.1 dB	0.2 dB
10 GHz	87.61 dBµV	87.4 dBµV	-0.2 dB	0.2 dB
11 GHz	87.25 dBµV	87.8 dBµV	0.6 dB	0.2 dB
12 GHz	87.16 dBµV	87.3 dBµV	0.1 dB	0.2 dB
13 GHz	87.13 dBµV	86.6 dBµV	-0.6 dB	0.2 dB
14 GHz	87.09 dBµV	87.1 dBµV	0.0 dB	0.2 dB
15 GHz	86.51 dBµV	86.9 dBµV	0.4 dB	0.2 dB
16 GHz	86.53 dBµV	86.9 dBµV	0.3 dB	0.2 dB
17 GHz	86.62 dBµV	86.3 dBµV	-0.3 dB	0.2 dB
18 GHz	85.90 dBµV	86.1 dBµV	0.2 dB	0.2 dB

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3.3 Frequency Response of Quasi-Peak Detector - continued

Frequency	STD Value	Measured Value		Measurement Uncertainty
		DUT reading	Offset	(C.L. : Approx. 95 %, k = 2)
19 GHz	88.29 dBµV	88.3 dBµV	0.0 dB	0.2 dB
20 GHz	86.38 dBµV	85.3 dBµV	-1.0 dB	0.2 dB
21 GHz	86.13 dBµV	85.8 dBµV	-0.3 dB	0.2 dB
22 GHz	86.56 dBµV	86.0 dBµV	-0.5 dB	0.2 dB
23 GHz	86.31 dBµV	86.2 dBµV	-0.1 dB	0.2 dB
24 GHz	85.63 dBµV	85.5 dBµV	-0.2 dB	0.2 dB
25 GHz	86.09 dBµV	86.0 dBµV	-0.1 dB	0.2 dB
26 GHz	85.84 dBµV	85.8 dBµV	-0.1 dB	0.2 dB
27 GHz	85.43 dBµV	85.3 dBµV	-0.2 dB	0.2 dB
28 GHz	85.93 dBµV	85.7 dBµV	-0.2 dB	0.2 dB
29 GHz	85.90 dBµV	85.8 dBµV	-0.1 dB	0.2 dB
30 GHz	84.75 dBµV	85.1 dBµV	0.3 dB	0.2 dB
31 GHz	85.26 dBµV	85.5 dBµV	0.2 dB	0.2 dB
32 GHz	84.44 dBµV	85.1 dBµV	0.7 dB	0.2 dB
33 GHz	84.40 dBµV	84.5 dBµV	0.1 dB	0.2 dB
34 GHz	84.61 dBµV	84.7 dBµV	0.1 dB	0.2 dB
35 GHz	85.78 dBµV	86.3 dBµV	0.5 dB	0.2 dB
36 GHz	85.24 dBµV	85.3 dBµV	0.0 dB	0.2 dB
37 GHz	84.15 dBµV	84.4 dBµV	0.2 dB	0.2 dB
38 GHz	85.23 dBµV	86.0 dBµV	0.8 dB	0.2 dB
39 GHz	85.27 dBµV	85.5 dBµV	0.2 dB	0.2 dB
40 GHz	83.19 dBµV	84.6 dBµV	1.4 dB	0.2 dB

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4. Response to Pulse of Quasi-Peak Detector

4.1 Amplitude Relationship (absolute calibration)

CISPR Band	Pulse	STD Value	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
A	100 Hz	42.9 dBμV	**42.9 dBμV**	0.8 dB
9 kHz ~ 150 kHz	60 Hz	41.9 dBμV	**41.8 dBμV**	0.8 dB
	25 Hz	38.9 dBμV	**39.0 dBμV**	0.8 dB
	10 Hz	34.9 dBμV	**34.7 dBμV**	0.8 dB
	5 Hz	31.4 dBμV	**30.6 dBμV**	0.8 dB
	2 Hz	25.9 dBμV	**24.6 dBμV**	0.8 dB
	1 Hz	21.9 dBμV	**20.9 dBμV**	0.9 dB
	Single Pulse	19.9 dBμV	**19.7 dBμV**	1.1 dB
B	1000 Hz	43.5 dBμV	**43.4 dBμV**	0.8 dB
150 kHz ~ 30 MHz	100 Hz	39.0 dBμV	**39.7 dBμV**	0.8 dB
	20 Hz	32.5 dBμV	**33.1 dBμV**	0.8 dB
	10 Hz	29.0 dBμV	**28.9 dBμV**	0.8 dB
	2 Hz	18.5 dBμV	**18.1 dBμV**	0.8 dB
	1 Hz	16.5 dBμV	**16.1 dBμV**	0.9 dB
	Single Pulse	15.5 dBμV	**15.0 dBμV**	1.1 dB
C / D	1000 Hz	47.7 dBμV	**47.2 dBμV**	0.8 dB
35 MHz to 1 GHz	100 Hz	39.7 dBμV	**39.7 dBμV**	0.8 dB
	20 Hz	30.7 dBμV	**30.4 dBμV**	0.8 dB
	10 Hz	25.7 dBμV	**25.5 dBμV**	0.8 dB
	2 Hz	13.7 dBμV	**13.6 dBμV**	0.8 dB
	1 Hz	11.2 dBμV	**11.3 dBμV**	0.9 dB
	Single Pulse	8.2 dBμV	**8.2 dBμV**	1.1 dB

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4.2 Variation with Repeation Frequency (relative calibration)

CISPR Band	Pulse	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
A	100 Hz	-3.9 dB	0.8 dB
9 kHz ~ 150 kHz	60 Hz	-2.8 dB	0.8 dB
	25 Hz	0.0 dB (ref.)	N / A
	10 Hz	4.3 dB	0.8 dB
	5 Hz	8.3 dB	0.8 dB
	2 Hz	14.3 dB	0.8 dB
	1 Hz	18.1 dB	0.9 dB
	Single Pulse	19.3 dB	1.1 dB
B	1000 Hz	-3.8 dB	0.8 dB
150 kHz ~ 30 MHz	100 Hz	0.0 dB (ref.)	N / A
	20 Hz	6.6 dB	0.8 dB
	10 Hz	10.8 dB	0.8 dB
	2 Hz	21.6 dB	0.8 dB
	1 Hz	23.6 dB	0.9 dB
	Single Pulse	24.7 dB	1.1 dB
C / D	1000 Hz	-7.5 dB	0.8 dB
35 MHz to 1 GHz	100 Hz	0.0 dB (ref.)	N / A
	20 Hz	9.3 dB	0.8 dB
	10 Hz	14.2 dB	0.8 dB
	2 Hz	26.1 dB	0.8 dB
	1 Hz	28.4 dB	0.9 dB
	Single Pulse	31.5 dB	1.1 dB

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5. Overall Selectivity (Passband)

5.1 IF Filter (200 Hz) for CISPR Band A

Offset Frequency	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
-225 Hz	30.7 dB	0.4 dB
-200 Hz	24.3 dB	0.4 dB
-175 Hz	18.6 dB	0.4 dB
-150 Hz	13.6 dB	0.4 dB
-125 Hz	9.5 dB	0.4 dB
-100 Hz	6.1 dB	0.4 dB
-75 Hz	3.4 dB	0.4 dB
-50 Hz	1.5 dB	0.4 dB
-25 Hz	0.4 dB	0.4 dB
0 Hz	0.0 dB (ref.)	N / A
25 Hz	0.4 dB	0.4 dB
50 Hz	1.5 dB	0.4 dB
75 Hz	3.4 dB	0.4 dB
100 Hz	6.1 dB	0.4 dB
125 Hz	9.5 dB	0.4 dB
150 Hz	13.7 dB	0.4 dB
175 Hz	18.6 dB	0.4 dB
200 Hz	24.3 dB	0.4 dB
225 Hz	30.7 dB	0.4 dB

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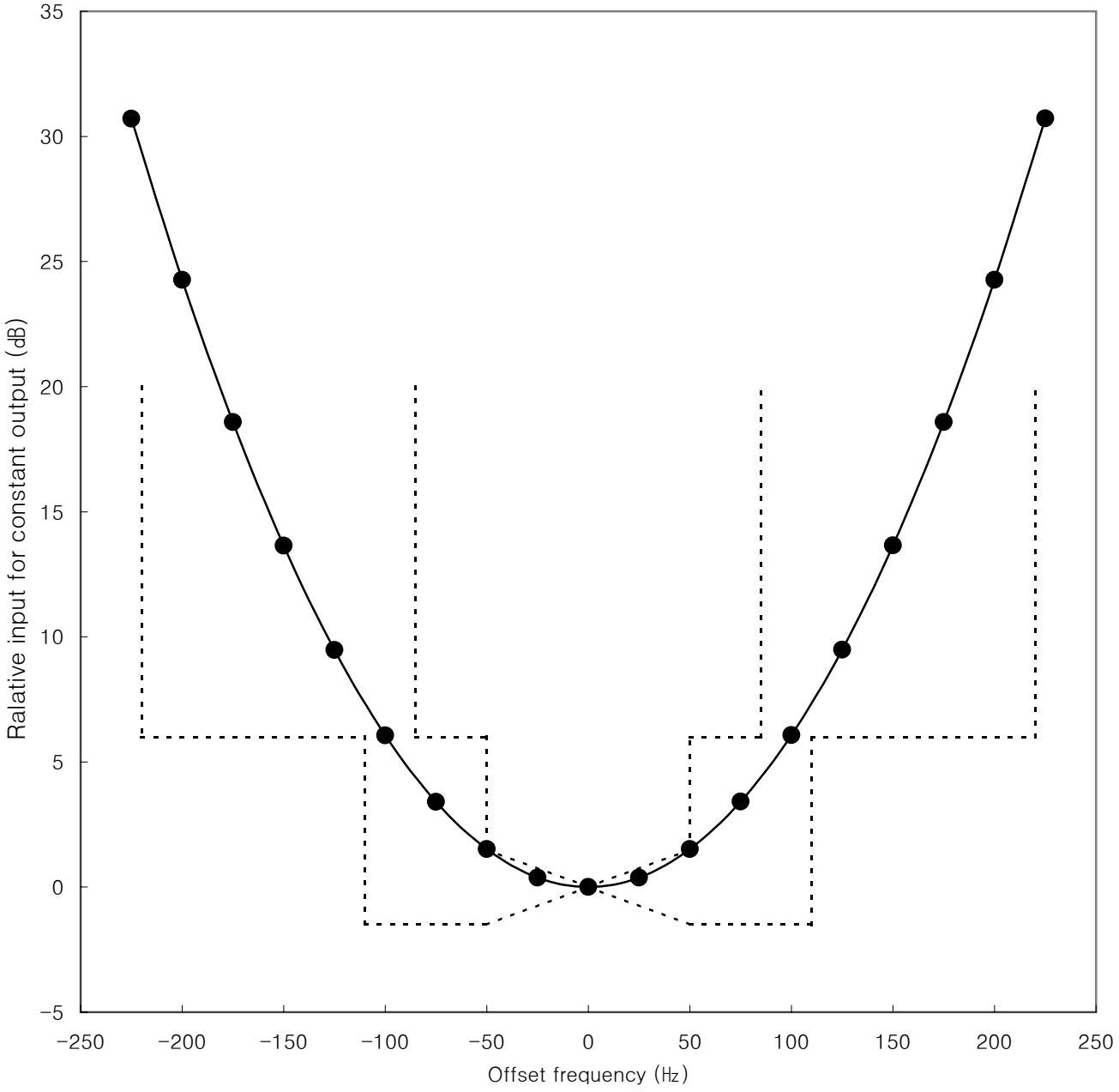
5.1 IF Filter (200 Hz) for CISPR Band A - continued

IF Selectivity for CISPR band A



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5.2 IF Filter (9 kHz) for CISPR Band B

Offset Frequency	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
-10 kHz	29.4 dB	0.4 dB
-9 kHz	23.9 dB	0.4 dB
-8 kHz	18.9 dB	0.4 dB
-7 kHz	14.5 dB	0.4 dB
-6 kHz	10.7 dB	0.4 dB
-5 kHz	7.4 dB	0.4 dB
-4 kHz	4.8 dB	0.4 dB
-3 kHz	2.7 dB	0.4 dB
-2 kHz	1.2 dB	0.4 dB
-1 kHz	0.3 dB	0.4 dB
0 kHz	0.0 dB (ref.)	N / A
1 kHz	0.3 dB	0.4 dB
2 kHz	1.2 dB	0.4 dB
3 kHz	2.6 dB	0.4 dB
4 kHz	4.7 dB	0.4 dB
5 kHz	7.3 dB	0.4 dB
6 kHz	10.6 dB	0.4 dB
7 kHz	14.4 dB	0.4 dB
8 kHz	18.7 dB	0.4 dB
9 kHz	23.7 dB	0.4 dB
10 kHz	29.2 dB	0.4 dB

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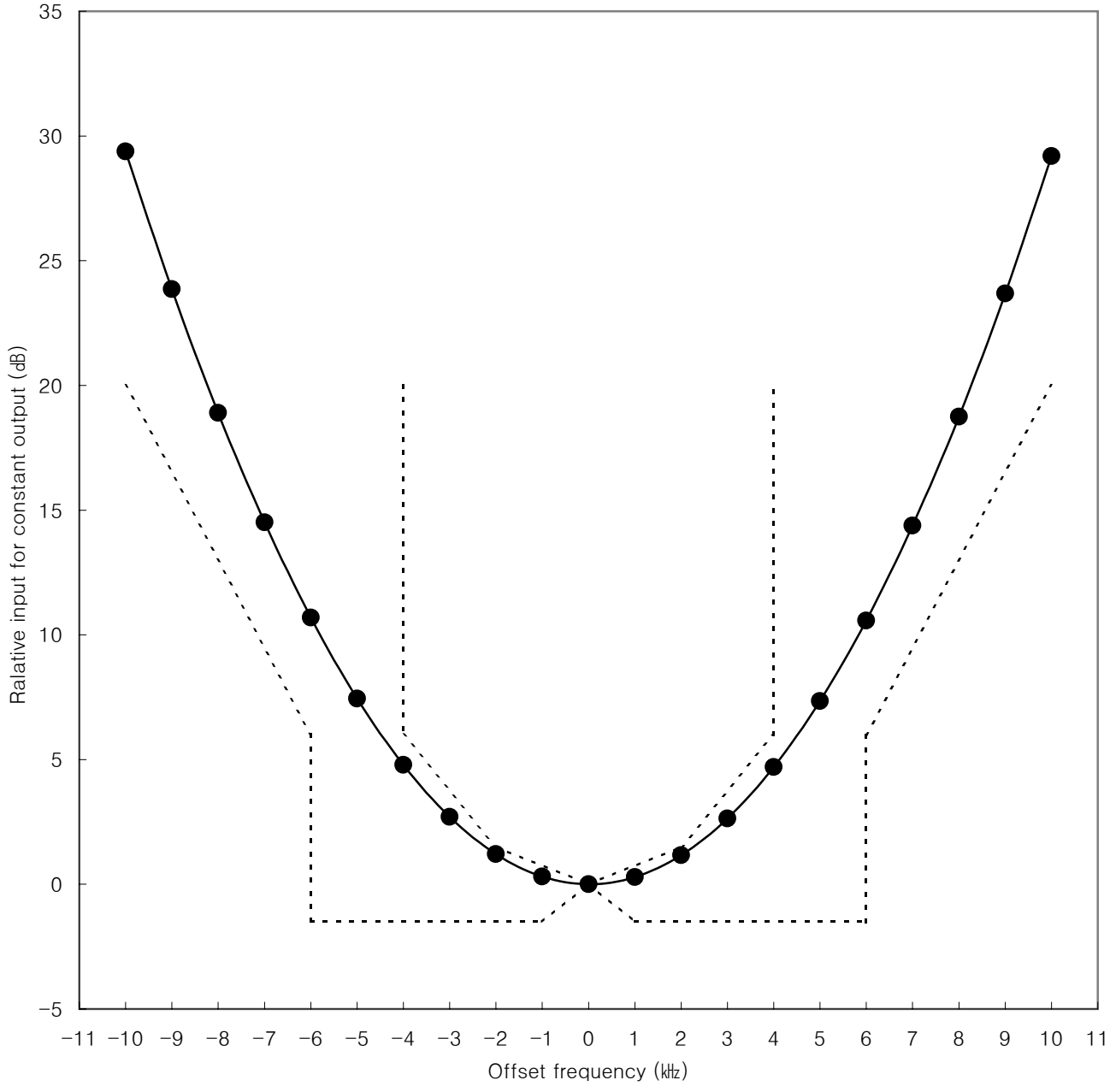
5.2 IF Filter (9 kHz) for CISPR Band B - continued

IF Selectivity for CISPR band B



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5.3 IF Filter (120 kHz) for CISPR Band C/D

Offset Frequency	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
-140 kHz	33.2 dB	0.4 dB
-130 kHz	28.6 dB	0.4 dB
-120 kHz	24.4 dB	0.4 dB
-110 kHz	20.5 dB	0.4 dB
-100 kHz	17.0 dB	0.4 dB
-90 kHz	13.8 dB	0.4 dB
-80 kHz	10.9 dB	0.4 dB
-70 kHz	8.3 dB	0.4 dB
-60 kHz	6.1 dB	0.4 dB
-50 kHz	4.3 dB	0.4 dB
-40 kHz	2.7 dB	0.4 dB
-30 kHz	1.5 dB	0.4 dB
-20 kHz	0.7 dB	0.4 dB
-10 kHz	0.2 dB	0.4 dB
0 kHz	0.0 dB (ref.)	N / A
10 kHz	0.2 dB	0.4 dB
20 kHz	0.7 dB	0.4 dB
30 kHz	1.5 dB	0.4 dB
40 kHz	2.7 dB	0.4 dB
50 kHz	4.2 dB	0.4 dB
60 kHz	6.1 dB	0.4 dB
70 kHz	8.3 dB	0.4 dB
80 kHz	10.8 dB	0.4 dB
90 kHz	13.7 dB	0.4 dB
100 kHz	16.9 dB	0.4 dB
110 kHz	20.5 dB	0.4 dB
120 kHz	24.4 dB	0.4 dB
130 kHz	28.6 dB	0.4 dB
140 kHz	33.2 dB	0.4 dB

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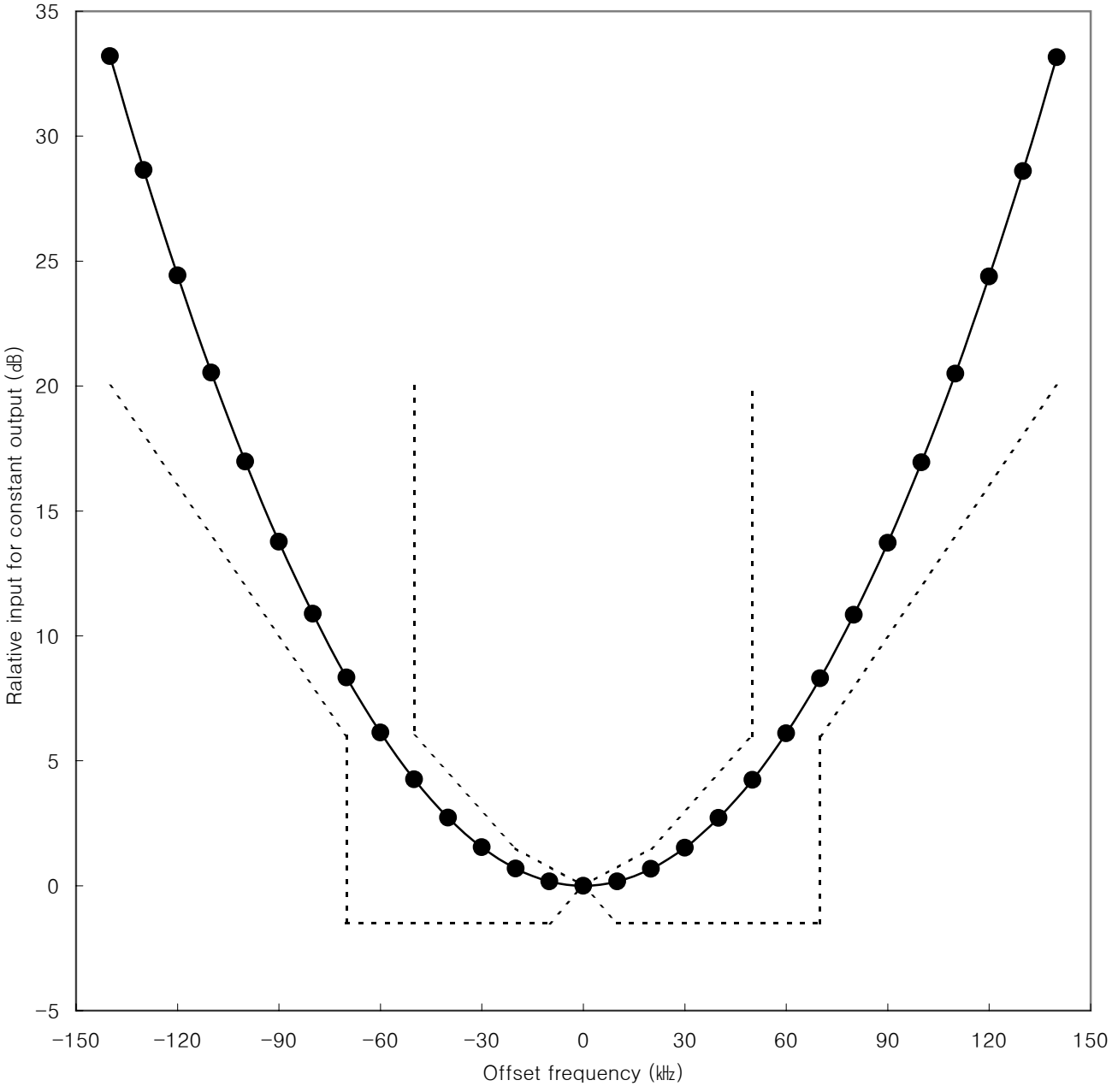
5.3 IF Filter (120 kHz) for CISPR Band C/D - continued

IF Selectivity for CISPR band C



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6. Interference Immunity

6.1 Image frequency rejection of the 1st IF (meas. Tims : 1 sec)

Frequency	SG Frequency	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
11 MHz	160.4 MHz	99 dB	1 dB
100 MHz	2 809.4 MHz	97 dB	1 dB
1 701 MHz	2 490.4 MHz	129 dB	1 dB
2 401 MHz	1 611.6 MHz	129 dB	1 dB

6.2 Image frequency rejection of the 2nd IF (meas. Tims : 1 sec)

Frequency	SG Frequency	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
10 MHz	31.4 MHz	116 dB	1 dB
100 MHz	249.4 MHz	118 dB	1 dB
2 490 MHz	2 340.6 MHz	129 dB	1 dB

6.3 IF rejection (meas. Tims : 1 sec)

Frequency	SG Frequency	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
11 MHz	74.7 MHz	116 dB	1 dB
100 MHz	1 354.7 MHz	99 dB	1 dB
2 401 MHz	394.7 MHz	131 dB	1 dB

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7. Random Noise

Frequency	Preamp	IF Bandwidth	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
9 kHz	on	200 Hz	-27 dBµV	1 dB
10 kHz	on	200 Hz	-26 dBµV	1 dB
20 kHz	on	200 Hz	-27 dBµV	1 dB
30 kHz	on	200 Hz	-27 dBµV	1 dB
40 kHz	on	200 Hz	-27 dBµV	1 dB
50 kHz	on	200 Hz	-26 dBµV	1 dB
50 kHz	on	9 kHz	-10 dBµV	1 dB
100 kHz	on	9 kHz	-10 dBµV	1 dB
300 kHz	on	9 kHz	-10 dBµV	1 dB
500 kHz	on	9 kHz	-11 dBµV	1 dB
700 kHz	on	9 kHz	-12 dBµV	1 dB
900 kHz	on	9 kHz	-13 dBµV	1 dB
1 MHz	on	9 kHz	-13 dBµV	1 dB
2 MHz	on	9 kHz	-16 dBµV	1 dB
3 MHz	on	9 kHz	-17 dBµV	1 dB
4 MHz	on	9 kHz	-17 dBµV	1 dB
5 MHz	on	9 kHz	-18 dBµV	1 dB
6 MHz	on	9 kHz	-18 dBµV	1 dB
7 MHz	on	9 kHz	-18 dBµV	1 dB
8 MHz	on	9 kHz	-18 dBµV	1 dB
9 MHz	on	9 kHz	-21 dBµV	1 dB
10 MHz	on	9 kHz	-21 dBµV	1 dB
20 MHz	on	9 kHz	-21 dBµV	1 dB
30 MHz	on	9 kHz	-21 dBµV	1 dB

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7. Random Noise - continued

Frequency	Preamp	IF Bandwidth	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
30 MHz	on	120 kHz	-9 dBµV	1 dB
50 MHz	on	120 kHz	-10 dBµV	1 dB
70 MHz	on	120 kHz	-9 dBµV	1 dB
90 MHz	on	120 kHz	-10 dBµV	1 dB
100 MHz	on	120 kHz	-10 dBµV	1 dB
300 MHz	on	120 kHz	-9 dBµV	1 dB
500 MHz	on	120 kHz	-9 dBµV	1 dB
700 MHz	on	120 kHz	-8 dBµV	1 dB
900 MHz	on	120 kHz	-7 dBµV	1 dB
1 GHz	on	120 kHz	-7 dBµV	1 dB
2 GHz	on	120 kHz	-6 dBµV	1 dB
3 GHz	on	120 kHz	-5 dBµV	1 dB

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8. Bandwidth Accuracy

8.1 IF bandwidth accuracy (-6 dB)

IF Bandwidth	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
200 Hz	197.1 Hz	0.2 Hz
9 kHz	8.940 kHz	2 Hz
120 kHz	117.7 kHz	0.2 kHz
1 MHz	0.988 MHz	2 kHz

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9. Display linearity

Nominal Value	Measured Value	Measurement Uncertainty (C.L. : Approx. 95 %, k = 2)
0 dB	0.0 dB (ref.)	N / A
-2 dB	-2.0 dB	0.7 dB
-4 dB	-4.0 dB	0.7 dB
-6 dB	-6.0 dB	0.7 dB
-8 dB	-8.0 dB	0.7 dB
-10 dB	-10.0 dB	0.7 dB
-12 dB	-12.0 dB	0.7 dB
-14 dB	-14.0 dB	0.7 dB
-16 dB	-16.0 dB	0.7 dB
-18 dB	-18.0 dB	0.7 dB
-20 dB	-20.0 dB	0.7 dB
-22 dB	-22.0 dB	0.7 dB
-24 dB	-24.0 dB	0.7 dB
-26 dB	-26.0 dB	0.7 dB
-28 dB	-28.0 dB	0.7 dB
-30 dB	-30.0 dB	0.7 dB
0 dB	0.0 dB (ref.)	N / A
-5 dB	-5.0 dB	0.7 dB
-10 dB	-10.0 dB	0.7 dB
-15 dB	-14.9 dB	0.7 dB
-20 dB	-20.0 dB	0.7 dB
-25 dB	-24.9 dB	0.7 dB
-30 dB	-30.0 dB	0.7 dB
-35 dB	-35.0 dB	0.7 dB
-40 dB	-40.0 dB	0.7 dB
-45 dB	-44.9 dB	0.7 dB
-50 dB	-49.9 dB	0.7 dB
-55 dB	-54.9 dB	0.7 dB

끝.

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