



較正完了通知書

Completion Notice of Calibration

申請者 Customer : Intertek Japan K.K.
所在地 Address : 茨城県神栖市砂山3番地2
機器種別 Type of Instrument(s) : 電界強度測定器 (アンテナ)
製造者 Manufacturer : Schwarzbeck
型式 Model No. : BBA9106
製造番号 Serial No. : 91032865

較正完了日 Calibration Date : Dec. xx, 2012
発行日 Date of Issue : Dec. xx, 2012
通知書番号 Notice No. : JC12120xxx
温度 Temperature : 24 Degree C
湿度 Humidity : 60 % RH
較正方法 Calibration Procedure No. : RJP-CA002
終端インピーダンス Terminating Impedance : 50 Ω
備考 Note :

SAMPLE

上記の機器は、当社の規定、及び手順書に従って較正を行い、その結果が別紙の較正結果の通りであることを証明します。

Intertek Japan K.K. certifies that the above instrument was calibrated in accordance with applicable our calibration rule and calibration procedure.

Katsuyuki Tanakajima

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Equipment used for the calibration are traceable to SI units (national or international standards) via calibration services by manufacturer or recognized standards laboratories. This document shall not be reproduced, except in full.

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較 正 結 果

Calibration Report

機 器 種 別	Type of Instrument(s)	: 電界強度測定器 (アンテナ)
製 造 者	Manufacturer	: Schwarzbeck
型 式	Model No.	: BBA9106
製 造 番 号	Serial No.	: 91032865
較 正 完 了 日	Calibration Date	: Dec. xx, 2012
較 正 場 所	Calibration Place	: No.8 Open Area Test Site
備 考	Note	:

No.	Category・Standard / Calibration method
1	アンテナ係数 SAMPLE
2	
3	
4	
5	
Remarks :	<p>インピーダンスミスマッチを低減するために、供試アンテナと測定系同軸線路の間に6dBアッテネータパッドを挿入して較正を行いました。 To reduce impedance mismatch, a 6dB attenuator pad was placed between the antenna under test and coaxial cable during calibration.</p> <p>このアンテナ係数には、送信アンテナと受信アンテナの相互結合と、大地結合が含まれています。 Mutual coupling and MGP coupling of the transmitting antenna and receiving antenna are included to this antenna factor.</p>

Condition of Calibration

Item	Condition	Note
Antenna height above ground	Refer to each page	
Distance from field radiator (transmitting antenna)	Refer to each page	
Point of distance adjustment	Center of antenna element	
Polarization	Refer to each page	
Terminating impedance	50 Ω	
Attenuator pad for mismatch reducing	6 dB	

Calibration Equipment Used

Instrument	Manufacturer	Model No.	Serial No.	Expiry Date	Calibrated by
Attenuator	Agilent	8494B	MY42151645		NICT
Attenuator	Agilent	8496B	MY42177043		NICT
Biconical Antenna	Schwarzbeck	BBA9106	91032732	Nov. 2013	Intertek
Biconical Antenna	Schwarzbeck	BBA9106	247	Nov. 2013	Intertek
Spectrum Analyzer	Agilent	E4404B	MY44211717	May 2013	Agilent
Tracking Generator	Agilent	E4404B	MY44211717	May 2013	Agilent
Power Amplifier	Intertek	ZHL-42W	0507	May 2013	Intertek
Fixed Attenuator	Tamagawa	CFA-051NPJ-3	1048577	Nov. 2012	Intertek

Calibration Uncertainty (Reported uncertainties represent expanded uncertainties expressed at approximately 95% confidence level using a coverage factor of $k=2$.)

Frequency Range	Uncertainty [dB]	Polarization	Distance [m]	TX antenna height [m]
20 MHz to 25 MHz	1.5	Horizontal	1	1
25 MHz to 1000 MHz	1.5	Horizontal	1	1
1000 MHz to 3000 MHz	1.6	Horizontal	1	1
20 MHz to 25 MHz	1.1	Vertical	1	1
25 MHz to 1000 MHz	1.1	Vertical	1	1
1000 MHz to 3000 MHz	1.1	Vertical	1	1
20 MHz to 25 MHz	1.5	Horizontal	1	1.5
25 MHz to 1000 MHz	1.5	Horizontal	1	1.5
1000 MHz to 3000 MHz	1.5	Horizontal	1	1.5
20 MHz to 25 MHz	1.0	Vertical	1	1.5
25 MHz to 1000 MHz	1.1	Vertical	1	1.5
1000 MHz to 3000 MHz	0.96	Vertical	1	1.5
20 MHz to 25 MHz	1.5	Horizontal	1	2
25 MHz to 1000 MHz	1.5	Horizontal	1	2
1000 MHz to 3000 MHz	1.4	Horizontal	1	2
20 MHz to 25 MHz	1.0	Vertical	1	2
25 MHz to 1000 MHz	1.1	Vertical	1	2
1000 MHz to 3000 MHz	0.92	Vertical	1	2
20 MHz to 25 MHz	1.5	Horizontal	1	3
25 MHz to 1000 MHz	1.5	Horizontal	1	3
1000 MHz to 3000 MHz	1.5	Horizontal	1	3
20 MHz to 25 MHz	1.1	Vertical	1	3
25 MHz to 1000 MHz	1.1	Vertical	1	3
1000 MHz to 3000 MHz	1.2	Vertical	1	3
20 MHz to 25 MHz	0.68	Horizontal	3	1
25 MHz to 1000 MHz	0.66	Horizontal	3	1
1000 MHz to 3000 MHz	0.56	Horizontal	3	1
20 MHz to 25 MHz	0.80	Vertical	3	1
25 MHz to 1000 MHz	0.88	Vertical	3	1
1000 MHz to 3000 MHz	0.56	Vertical	3	1
20 MHz to 25 MHz	0.80	Horizontal	3	1.5
25 MHz to 1000 MHz	0.68	Horizontal	3	1.5
1000 MHz to 3000 MHz	0.66	Horizontal	3	1.5
20 MHz to 25 MHz	0.88	Vertical	3	1.5
25 MHz to 1000 MHz	0.80	Vertical	3	1.5
1000 MHz to 3000 MHz	0.62	Vertical	3	1.5
20 MHz to 25 MHz	0.68	Horizontal	3	2
25 MHz to 1000 MHz	0.68	Horizontal	3	2
1000 MHz to 3000 MHz	0.48	Horizontal	3	2
20 MHz to 25 MHz	0.92	Vertical	3	2
25 MHz to 1000 MHz	0.82	Vertical	3	2
1000 MHz to 3000 MHz	0.54	Vertical	3	2
20 MHz to 25 MHz	0.78	Horizontal	10	1
25 MHz to 1000 MHz	0.68	Horizontal	10	1
1000 MHz to 3000 MHz	0.58	Horizontal	10	1
20 MHz to 25 MHz	0.74	Vertical	10	1
25 MHz to 1000 MHz	0.80	Vertical	10	1
1000 MHz to 3000 MHz	0.60	Vertical	10	1
20 MHz to 25 MHz	0.70	Horizontal	10	1.5
25 MHz to 1000 MHz	0.68	Horizontal	10	1.5
1000 MHz to 3000 MHz	0.62	Horizontal	10	1.5
20 MHz to 25 MHz	0.76	Vertical	10	1.5
25 MHz to 1000 MHz	0.82	Vertical	10	1.5
1000 MHz to 3000 MHz	0.54	Vertical	10	1.5
20 MHz to 25 MHz	0.72	Horizontal	10	2
25 MHz to 1000 MHz	0.66	Horizontal	10	2
1000 MHz to 3000 MHz	0.60	Horizontal	10	2
20 MHz to 25 MHz	0.76	Vertical	10	2
25 MHz to 1000 MHz	0.78	Vertical	10	2
1000 MHz to 3000 MHz	0.56	Vertical	10	2

結果 (Result)

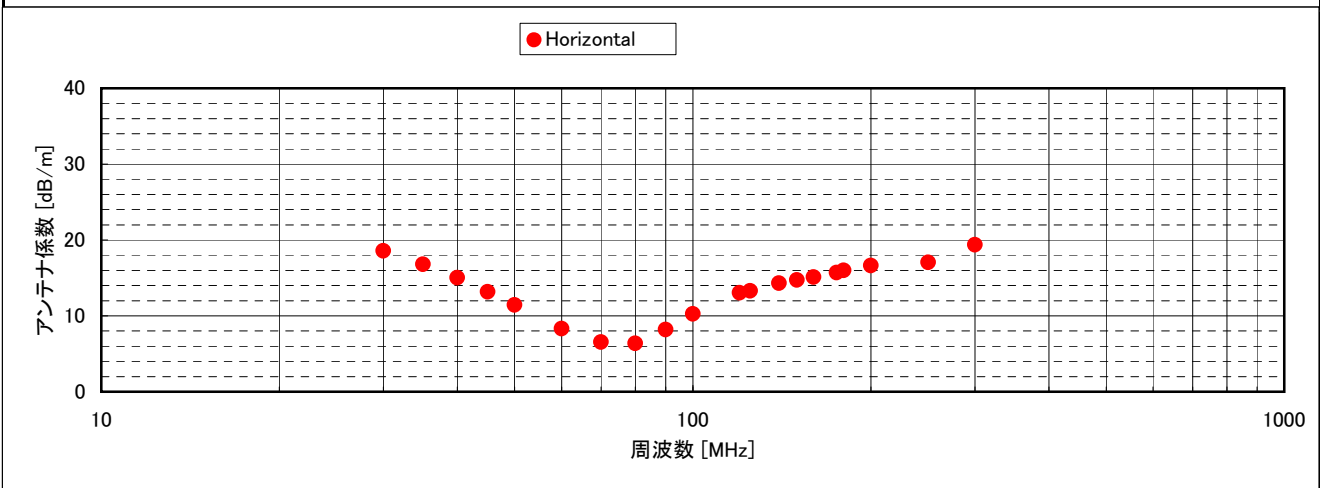
1. アンテナ係数

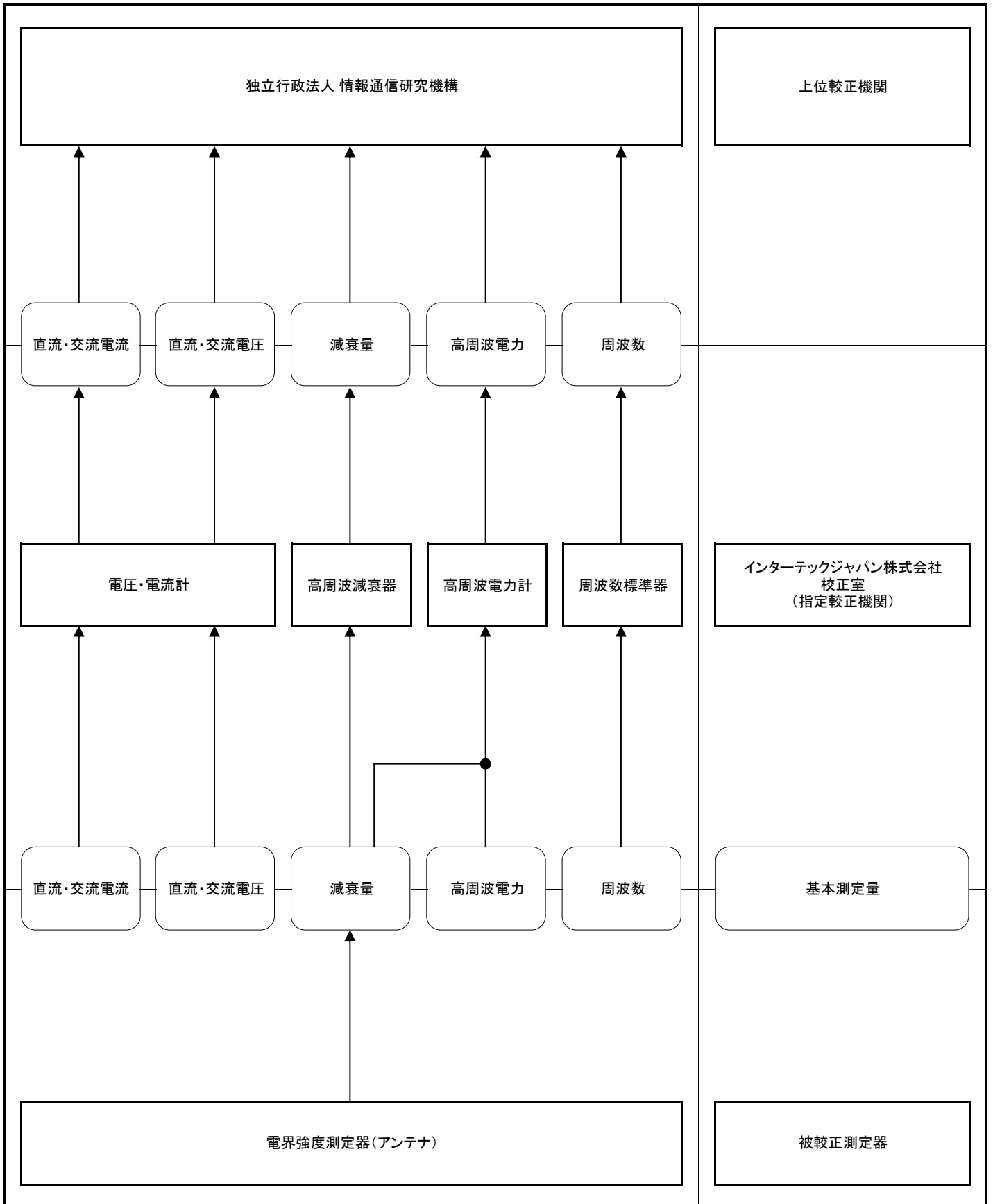
Frequency [MHz]	Horizontal Factor [dB/m]	Remarks
30	18.57	
35	16.81	
40	15.03	
45	13.18	
50	11.43	
60	8.32	
70	6.52	
80	6.35	
90	8.17	
100	10.25	
120	13.02	
125	13.31	
140	14.29	
150	14.71	
160	15.09	
175	15.71	
180	15.98	
200	16.63	
250	17.05	
300	19.36	

SAMPLE

Condition of Calibration

Distance from field radiator (transmitting antenna) : 10m
 Polarization : Horizontal
 TX Antenna height above ground : 2.0m Fixed
 RX Antenna height above ground : 1.0m-4.0m Scanning





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