CE RADIO TEST REPORT

Equipment	:	Metrolinq2.5 Outdoor 60GHz PTP + 5 GHz
Brand Name	:	IgniteNet
Model Name	:	ML2.5-60-35 / ML2.5-60-19
Applicant	:	Accton Technology Corporation No. 1, Creation Rd. III, Science-based Industrial Park Hsin Chu 30077, Taiwan R.O.C.
Manufacturer (1)	:	Joy Technology (Shen Zhen) Co. Ltd HengKeng Ind., Shangpai, Shangwu, Aiqun Rd., Shiyan Town, Shenzhen 518108 China
Manufacturer (2)	:	Accton Technology Corporation No. 1, Creation Rd. III, Science-based Industrial Park Hsin Chu 30077, Taiwan R.O.C.
Standard	:	EN 302 217-2 V3.1.1 (2017-05)

The product was received on Aug. 16, 2017, and testing was started from Sep. 21, 2017 and completed on Sep. 25, 2017. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in EN 302 217-1 v3.1.1 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
ER781526-07AB	01	Initial issue of report	Apr. 25, 2019

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	4.2.1.1	Maximum power and EIRP	PASS	-
3.1	4.2.1.2	Combined TX power output and EIRP limits	PASS	-
3.1	4.2.1.3	Output power tolerance	PASS	-
-	4.2.2.1.1	Automatic Transmit Power Control (ATPC)	N/A	w/o ATPC
-	4.2.2.1.2	Remote Transmit Power Control (RTPC)	N/A	w/o RTPC
-	4.2.2.2	Remote Frequency Control (RFC)	N/A	w/o RFC
3.2	4.2.3	Radio frequency spectrum mask	PASS	-
-	4.2.4	Discrete CW components exceeding the spectrum mask	N/A	w/o Discrete CW
3.3	4.2.5	Transmitter Spurious Emissions	PASS	-
-	4.2.7	Dynamic change of modulation order (Mixed-Mode)	N/A	w/o Mixed-Mode
3.4	4.2.8	Radio frequency tolerance	PASS	-
4.1	4.3.1	Receiver Spurious Emissions	PASS	-
4.2	4.3.2	Minimum RSL	PASS	-
4.3	4.3.3.2.2	Co-channel interference	PASS	-
4.4	4.3.3.2.2	Adjacent channel interference sensitivity	PASS	-
4.5	4.3.3.2.3	Second adjacent channel interference sensitivity	PASS	-
4.6	4.3.3.3	CW Spurious interference	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Wendy Pan

1 General Description

1.1.1 RF General Information

RF General Information	
Frequency Range	57-66 GHz
The Channel Plan(s)	Channel 1: 58.32 GHz Channel 2: 60.48 GHz Channel 3: 62.64 GHz Channel 4: 64.80 GHz
Modulation	$\pi/2-BPSK, \pi/2-QPSK, \pi/2-16QAM$
EN 302 217-2 Annex H refers to systems based on CS = n × 50 MHz, with $1 \leq n \leq 40$; systems not designed according that CS granularity should refer to the closest CS closest to their occupied bandwidth.	

1.1.2 Antenna Information

Ant.	Brand	Part Number	Antenna Type	Connector	Gain (dBi)		Remark
					5GHz Band 3	60GHz	
1	Accton	120G00000174X	Dish Ant.	N/A	16	-	35” antenna (for Model: ML2.5-60-35 use)
2	Accton	120G00000175X	Dish Ant.	N/A	10.7	-	19” antenna (for Model: ML2.5-60-19 use)
3	Accton	123400001485A	Dish Ant.	N/A	-	42	35” antenna (for Model: ML2.5-60-35 use)
4	Accton	123400001486A	Dish Ant.	N/A	-	38	19” antenna (for Model: ML2.5-60-19 use)

Note: The above information was declared by manufacturer.

<For 5GHz Band 3 Function>

For Model: ML2.5-60-35, Only Ant. 1 can be used as transmitting/receiving antenna.

For Model: ML2.5-60-19, Only Ant. 2 can be used as transmitting/receiving antenna.

Both Ant. 1 and Ant. 2 are the same type. Only Ant. 1 was selected to test because it’s gain was higher than that of Ant. 2.

Port 1 and Port 2 connect to Ant. 1 or Ant. 2.

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<For 60GHz Function>

For Model: ML2.5-60-35, Only Ant. 3 can be used as transmitting/receiving antenna.

For Model: ML2.5-60-19, Only Ant. 4 can be used as transmitting/receiving antenna.

1.1.3 EUT Operational Condition

EUT Power Type	From PoE / DC 48V		
Operational Voltage	☒ Vnom (230 V)	☒ Vmax (253 V)	☒ Vmin (207 V)
Operational Temperature	☒ Tnom (20°C)	☒ Tmax (55°C)	☒ Tmin (-30°C)

1.1.4 Equipment Spectral Efficiency Class

Equipment Spectral Efficiency Class
☐ Equipment Spectral Efficiency Class 1
☒ Equipment Spectral Efficiency Class 2
☐ Equipment Spectral Efficiency Class 3
☐ Equipment Spectral Efficiency Class 4L
☐ Equipment Spectral Efficiency Class 4H
☐ Equipment Spectral Efficiency Class 5L
☐ Equipment Spectral Efficiency Class 5H
☐ Equipment Spectral Efficiency Class 6L
☐ Equipment Spectral Efficiency Class 6H
☐ Equipment Spectral Efficiency Class 7
☐ Equipment Spectral Efficiency Class 8

1.1.5 Duty Cycle

Duty Cycle		
The transmitter is intended for:	☒	Continuous Duty: 100 %
	☐	Intermittent Duty: … %
	☐	Continuous operation possible for testing purposes

1.1.6 Output power tolerance

Output power tolerance
The supplier declares output power tolerance is 2 dB, it shall be included in the limits in clauses 3.1.1 and 3.2.1.

1.1.7 Table for Multiple Listing

The EUT has two model names which are identical to each other in all aspects except for the following table:

EUT	Model Name	Description	Remark
1	ML2.5-60-35	Matched with Ant. 1 (Part Number: 120G00000174X) and Ant. 3 (Part Number: 123400001485A).	Outdoor use.
2	ML2.5-60-19	Matched with Ant. 2 (Part Number: 120G00000175X) and Ant. 4 (Part Number: 123400001486A).	

1.1.8 Table for Existing Change

This product is an extension of original one reported under Sporton project number: ER781526AB
Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Removing the PoE and Power cable.	Do not affect the test results.

Note: All test results were based on original report.

1.2 Accessories

N/A

1.3 Support Equipment

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC
2	PoE	CARRIER	GME241DA-480050G	N/A

1.4 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- EN 302 217-2 V3.1.1 (2017-05)

1.5 Testing Location Information

Testing Location					
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.			
		TEL : 886-3-327-3456 FAX : 886-3-327-0973			
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.			
		TEL : 886-3-656-9065 FAX : 886-3-656-9085			
Test Condition		**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
RF Conducted		TH01-CB	Lucas	22°C / 54%	Sep. 21, 2017~Sep. 25, 2017
Radiated Emission		05CH01-CB	Ekko Hsieh	22°C / 54%	Sep. 21, 2017~Sep. 25, 2017

2 Test Configuration of Equipment under Test

2.1 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
Channel 1 (GHz)	58.32
Channel 2 (GHz)	60.48
Channel 3 (GHz)	62.64
Channel 4 (GHz)	64.80

2.2 The Worst Case Power Setting Parameter

For EUT 1:

The Worst Case Power Setting Parameter				
Test Software Version	Tera Term、QuetzalConfig			
Test Frequency (GHz)	**Channel 1**	**Channel 2**	**Channel 3**	**Channel 4**
	58.32	60.48	62.64	64.80
Power Setting Parameter	6.00	0.00	3.00	6.00

For EUT 2:

The Worst Case Power Setting Parameter				
Test Software Version	Tera Term、QuetzalConfig			
Test Frequency (GHz)	**Channel 1**	**Channel 2**	**Channel 3**	**Channel 4**
	58.32	60.48	62.64	64.80
Power Setting Parameter	3.00	0.00	0.00	3.00

2.3 EUT Operation during Test

During the test, “Tera Term” and "QuetzalConfig" under WIN 7 was executed the test program to control the EUT continuously transmit/receive RF signal.

2.4 Conformance Tests and Related Test Frequencies

For EUT 1:

Test Item	Test Frequencies (GHz)
Maximum power	58.32,60.48, 62.64, 64.80
Equivalent isotropically radiated power (EIRP) and Output power tolerance	58.32,60.48, 62.64, 64.80
Radio frequency spectrum mask	58.32,60.48, 62.64, 64.80
Transmitter Spurious emissions	58.32,60.48, 62.64, 64.80
Radio frequency tolerance	58.32,60.48, 62.64, 64.80
Receiver Spurious emissions	58.32,60.48, 62.64, 64.80
Minimum RSL	60.48
Co-channel interference	60.48
Adjacent channel interference sensitivity	60.48
Second adjacent channel interference sensitivity	60.48
CW Spurious interference	60.48

For EUT 2 :

Test Item	Test Frequencies (GHz)
Maximum power	58.32,60.48, 62.64, 64.80
Equivalent isotropically radiated power (EIRP) and Output power tolerance	58.32,60.48, 62.64, 64.80

Note 1: The EUT can only be used in Y axis.

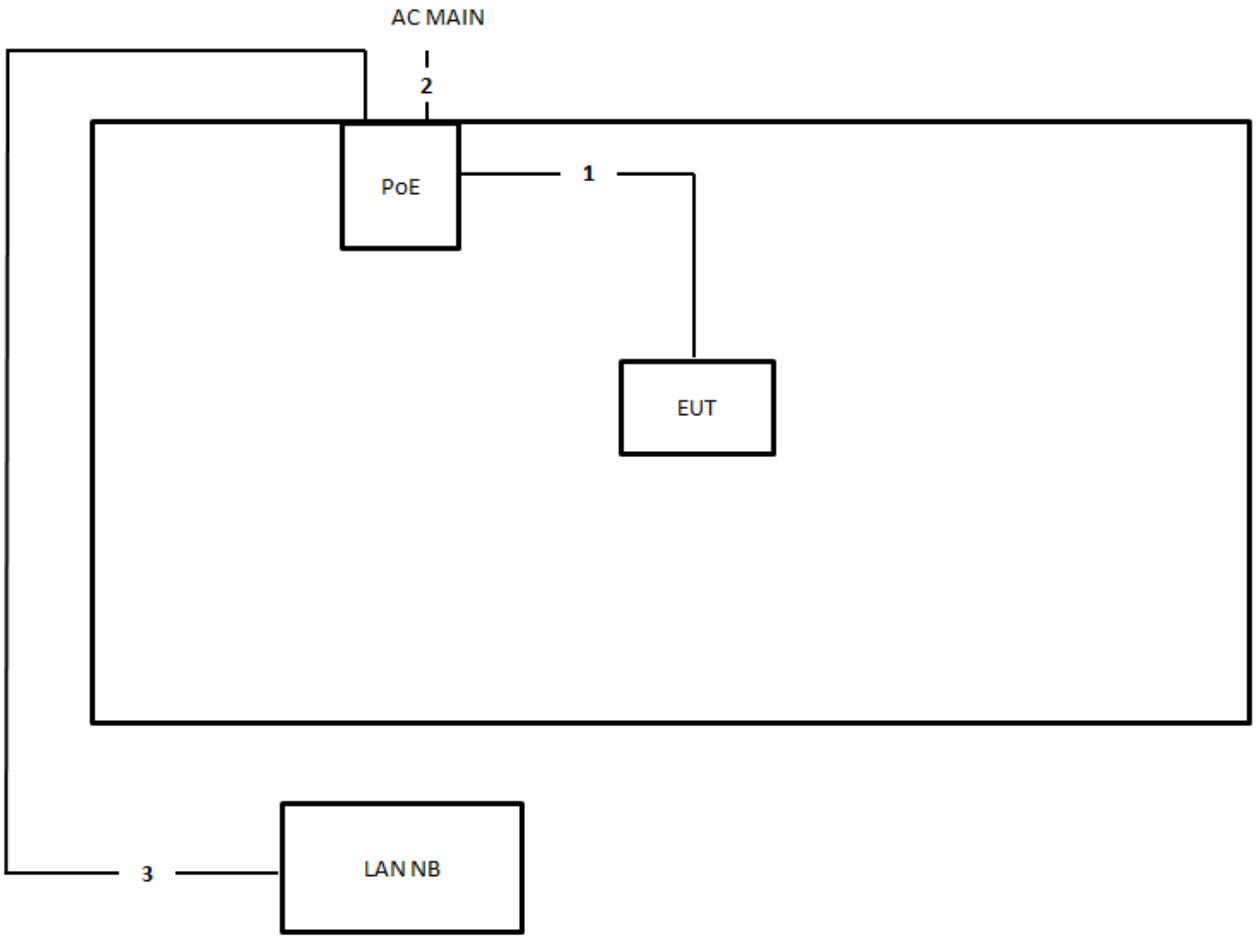
Note 2: The PoE is for measurement only, would not be marketed.

The detail information as below:

Support Unit	Brand	Model
PoE	CARRIER	GME241DA-480050G

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	RJ-45 cable	No	1.5m
2	Power cable	No	0.9m
3	RJ-45 cable	No	10m

3 Transmitter Test Result

3.1 Maximum Power, EIRP and Power Tolerance

3.1.1 Limit

w/o ATPC Option	
EIRP Limit (dBm) w/o ATPC	52
Pout Limit (dBm) w/o ATPC	10
EIRP PSD Limit (dBm/MHz) w/o ATPC	32
Min Gant Limit (dBi)	30
Transmitter Power Tolerance	±3dB

ATPC Option	
EIRP Limit (dBm) w/o ATPC	52
Pout Limit (dBm) w/o ATPC	10
EIRP PSD Limit (dBm/MHz) w/o ATPC	32
Min Gant Limit (dBi)	30
Transmitter Power Tolerance	±3dB

3.1.2 Measuring Instruments

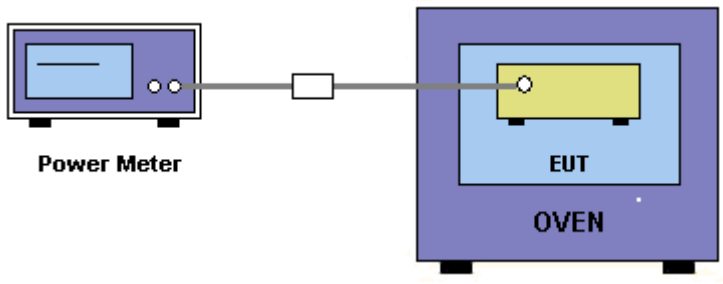
See list of measuring instruments of this test report.

3.1.3 Test Procedures

Method of measurement: see EN 302 217-1 v3.1.1 clause 5.2.1.

3.1.4 Test Setup

Maximum Power, EIRP and Power Tolerance



3.1.5 Test Result of Maximum Power

For EUT 1:

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
58.32	NTNV	46.59	42.00	4.59	10
	HTHV	49.80	42.00	7.80	10
	HTLV	49.73	42.00	7.73	10
	LTHV	42.57	42.00	0.57	10
	LTLV	42.53	42.00	0.53	10
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
60.48	NTNV	45.78	42.00	3.78	10
	HTHV	46.65	42.00	4.65	10
	HTLV	46.63	42.00	4.63	10
	LTHV	43.67	42.00	1.67	10
	LTLV	47.99	42.00	5.99	10
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
62.64	NTNV	46.42	42.00	4.42	10
	HTHV	49.50	42.00	7.50	10
	HTLV	49.46	42.00	7.46	10
	LTHV	42.61	42.00	0.61	10
	LTLV	42.98	42.00	0.98	10
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
64.80	NTNV	47.34	42.00	5.34	10
	HTHV	49.75	42.00	7.75	10
	HTLV	49.79	42.00	7.79	10
	LTHV	43.90	42.00	1.90	10
	LTLV	43.85	42.00	1.85	10
Result		**Complied**			

Note: NTNV : Normal Temperature Normal Voltage
HTHV: High Temperature High Voltage
HTLV: High Temperature Low Voltage
LTHV: Low Temperature High Voltage
LTLV: Low Temperature Low Voltage

For EUT 2 :

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
58.32	NTNV	34.60	38.00	-3.40	10
	HTHV	37.81	38.00	-0.19	10
	HTLV	37.74	38.00	-0.26	10
	LTHV	30.58	38.00	-7.42	10
	LTLV	30.54	38.00	-7.46	10
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
60.48	NTNV	33.03	38.00	-4.97	10
	HTHV	33.87	38.00	-4.13	10
	HTLV	33.88	38.00	-4.12	10
	LTHV	30.92	38.00	-7.08	10
	LTLV	35.24	38.00	-2.76	10
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
62.64	NTNV	34.47	38.00	-3.53	10
	HTHV	37.54	38.00	-0.46	10
	HTLV	37.51	38.00	-0.49	10
	LTHV	30.66	38.00	-7.34	10
	LTLV	31.03	38.00	-6.97	10
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	EIRP (dBm)	Antenna Gain (dBi)	Pout (dBm)	Limit (dBm)
64.80	NTNV	35.34	38.00	-2.66	10
	HTHV	37.75	38.00	-0.25	10
	HTLV	37.79	38.00	-0.21	10
	LTHV	31.90	38.00	-6.10	10
	LTLV	31.85	38.00	-6.15	10
Result		**Complied**			

Note: NTNV : Normal Temperature Normal Voltage
HTHV: High Temperature High Voltage
HTLV: High Temperature Low Voltage
LTHV: Low Temperature High Voltage
LTLV: Low Temperature Low Voltage

3.1.6 Test Result of EIRP and Power Tolerance

For EUT 1:

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
58.32	NTNV	-34.98	2.00	46.59	52.00
	HTHV	-31.77	2.00	49.80	52.00
	HTLV	-31.84	2.00	49.73	52.00
	LTHV	-39.00	2.00	42.57	52.00
	LTLV	-39.04	2.00	42.53	52.00
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
60.48	NTNV	-36.10	2.00	45.78	52.00
	HTHV	-35.23	2.00	46.65	52.00
	HTLV	-35.25	2.00	46.63	52.00
	LTHV	-38.21	2.00	43.67	52.00
	LTLV	-33.89	2.00	47.99	52.00
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
62.64	NTNV	-35.77	2.00	46.42	52.00
	HTHV	-32.69	2.00	49.50	52.00
	HTLV	-32.73	2.00	49.46	52.00
	LTHV	-39.58	2.00	42.61	52.00
	LTLV	-39.21	2.00	42.98	52.00
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
64.80	NTNV	-35.14	2.00	47.34	52.00
	HTHV	-32.73	2.00	49.75	52.00
	HTLV	-32.69	2.00	49.79	52.00
	LTHV	-38.58	2.00	43.90	52.00
	LTLV	-38.63	2.00	43.85	52.00
Result		**Complied**			

Note: NTNV : Normal Temperature Normal Voltage
HTHV: High Temperature High Voltage
HTLV: High Temperature Low Voltage
LTHV: Low Temperature High Voltage
LTLV: Low Temperature Low Voltage

For EUT 2 :

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
58.32	NTNV	-46.97	2.00	34.60	52.00
	HTHV	-43.76	2.00	37.81	52.00
	HTLV	-43.83	2.00	37.74	52.00
	LTHV	-50.99	2.00	30.58	52.00
	LTLV	-51.03	2.00	30.54	52.00
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
60.48	NTNV	-48.85	2.00	33.03	52.00
	HTHV	-48.01	2.00	33.87	52.00
	HTLV	-48.00	2.00	33.88	52.00
	LTHV	-50.96	2.00	30.92	52.00
	LTLV	-46.64	2.00	35.24	52.00
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
62.64	NTNV	-47.72	2.00	34.47	52.00
	HTHV	-44.65	2.00	37.54	52.00
	HTLV	-44.68	2.00	37.51	52.00
	LTHV	-51.53	2.00	30.66	52.00
	LTLV	-51.16	2.00	31.03	52.00
Result		**Complied**			

Test Frequency (GHz)	Test Conditions	Measured Power (dBm)	Output power tolerance (dB)	EIRP (dBm)	Limit (dBm)
64.80	NTNV	-47.14	2.00	35.34	52.00
	HTHV	-44.73	2.00	37.75	52.00
	HTLV	-44.69	2.00	37.79	52.00
	LTHV	-50.58	2.00	31.90	52.00
	LTLV	-50.63	2.00	31.85	52.00
Result		**Complied**			

Note: NTNV : Normal Temperature Normal Voltage
HTHV: High Temperature High Voltage
HTLV: High Temperature Low Voltage
LTHV: Low Temperature High Voltage
LTLV: Low Temperature Low Voltage

3.2 Radio Frequency Spectrum Mask

3.2.1 Limit of Spectrum Mask

Spectral efficiency		Min. RIC rate (Mbit/s)	Mask reference shape	K1(dB)	f1(MHz)	K2(dB)	f2(MHz)	K3(dB)	f3 (MHz)	K4(dB)	f4(MHz)	K5(dB)	f5(MHz)
Reference Index	Class												
1	1	N × 28,5 (7)	Figure 8(a)	3	N × 22,9	-18	N × 28	-23	N × 44,8	-40 (2)	N × 72,5	-40 (2)	(1)
2	2	N × 57											
3	3	N × 85											
4	4L	N × 114	Figure 8(b)	3	N × 22,9	-25	N × 29,8	-40 (2)	N × 62,8	-40 (2)	(1)		
5	4H	N x 175	Figure 8(c)	3	N × 22	-10	N × 26,8	-28	N × 29,8	-43 (3)	N × 69,6	-43 (3)	(1)
6	5LA	N x 210	Figure 8(d)	3	N × 22	-10	N × 26,8	-31	N × 30,2	-45 (4)	N × 69,6	-45 (4)	(1)
7	5HA	N x 245						-34	N × 30,8	-45 (5)		-45 (5)	
8	6LA	N x 280						-37	N × 31,2	-45 (6)		-45 (6)	
6	5LB	N x 210	Figure 8(e)	3	N × 21,4	-10	N × 25,9	-31	N × 27,6	-45 (4)	N × 69,6	-45 (4)	(1)
7	5HB	N x 245						-34	N × 27,8	-45 (5)		-45 (5)	
8	6LB	N x 280						-37	N × 28	-45 (6)		-45 (6)	

(1) For CS ≤ 500 MHz this value is CS × 2,5.
For CS > 500 MHz, this value is variable with CS (MHz) according the formula CS × 1,5 + 500.
(2) Attenuation less, in dB, than -40 + 10log(N/5) is not required.
(3) Attenuation less, in dB, than -43 + 10log(N/5) is not required.
(4) For N ≥ 10, attenuation less, in dB, than -46 + 10log(N/5) is not required.
(5) For N ≥ 15, attenuation less, in dBthan -49 + 10log(N/5) is not required.
(6) For N ≥ 30, attenuation less, in dB, than -52 + 10log(N/5) is not required.
(7) For N > 4 rounded down to the lower Mbit/s integer.
NOTE 1: N can vary from 1 to 40; however, equipment characteristics are not presented for all cases. See table H.2 in annex H for details.
NOTE 2: The 10log(N/5) value is intended truncated to the first decimal place.

3.2.2 Measuring Instruments

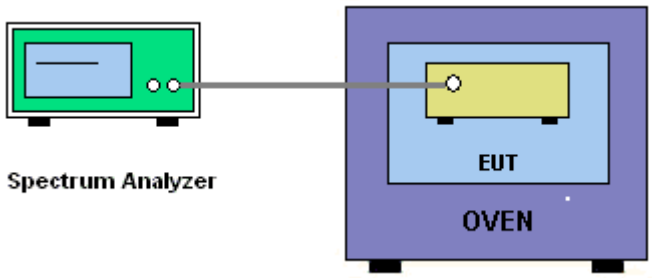
See list of measuring instruments of this test report.

3.2.3 Test Procedures

Method of measurement: see EN 302 217-1 v3.1.1 clause 5.2.6.

3.2.4 Test Setup

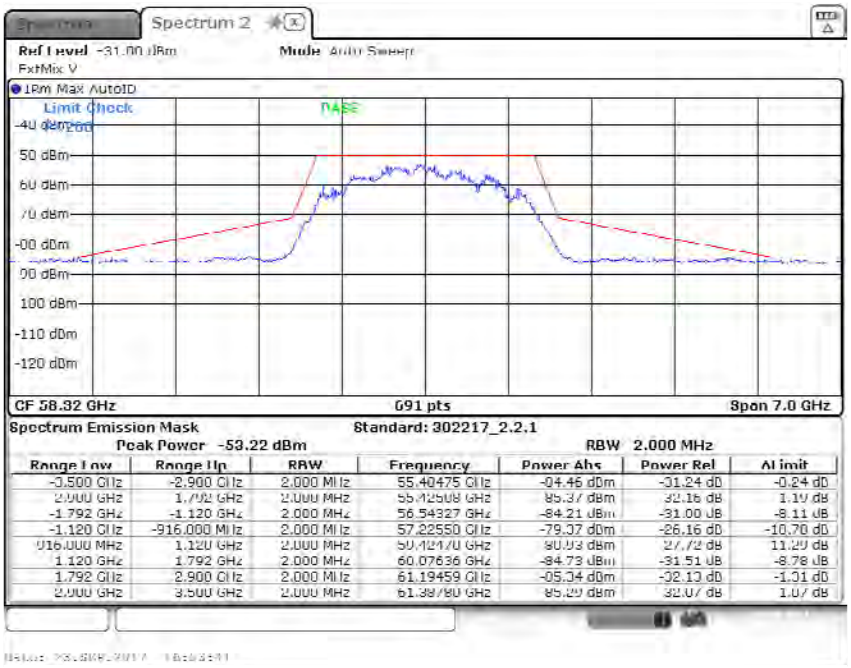
Radio Frequency Spectrum Mask



3.2.5 Test Result of Radio Frequency Spectrum Mask

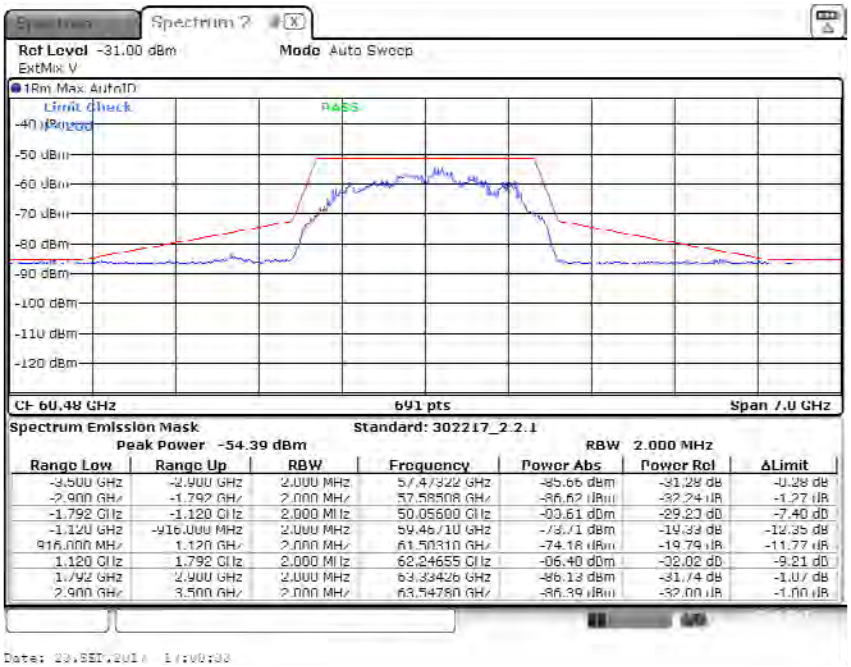
Test Frequency (GHz): 58.32

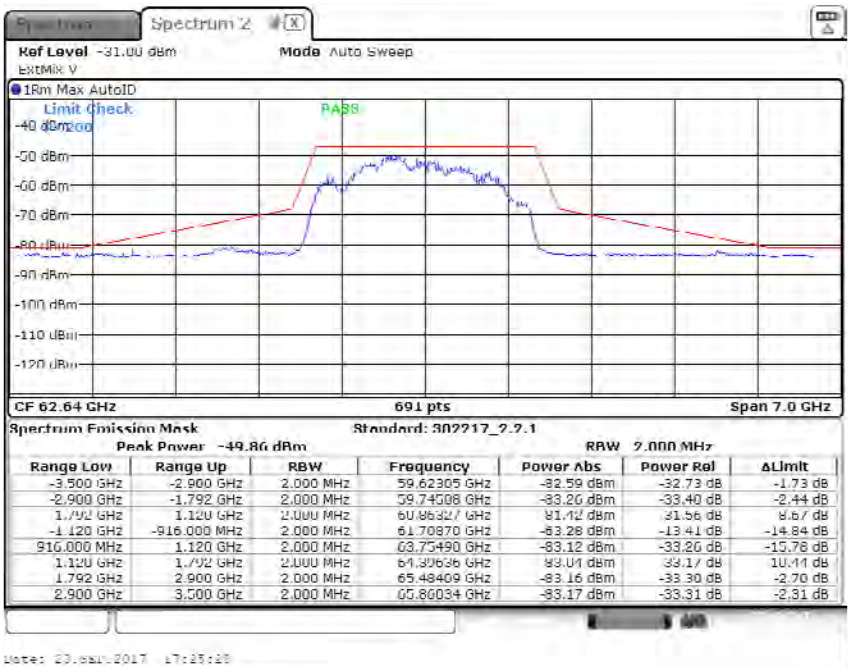
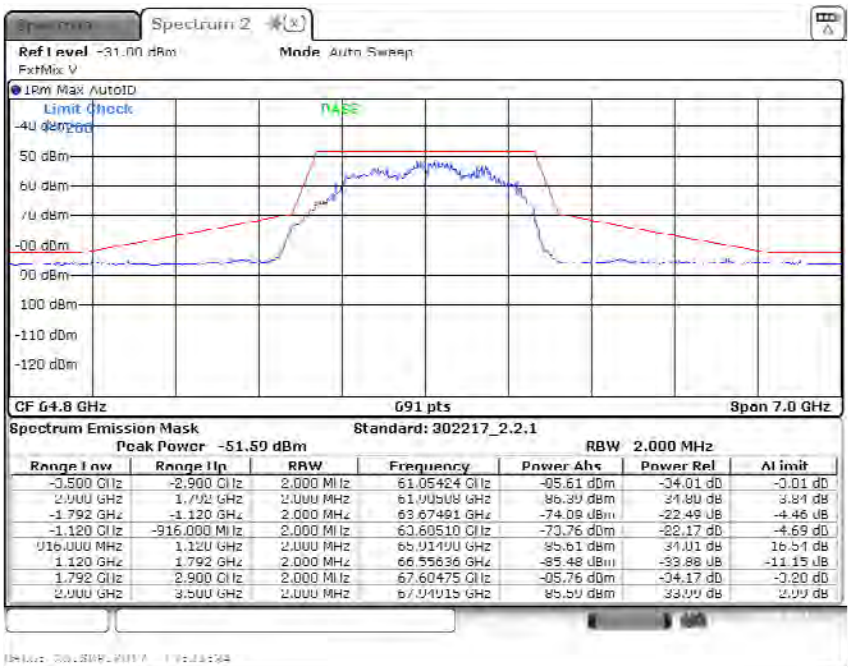
Test Conditions: HTHV



Test Frequency (GHz): 60.48

Test Conditions: HTHV



Test Frequency (GHz): 62.64
Test Conditions: HTHV

Test Frequency (GHz): 64.80
Test Conditions: HTLV


Note: HTHV: High Temperature High Voltage
HTLV: High Temperature Low Voltage

3.3 Transmitter Spurious Emissions

3.3.1 Limit of Transmitter Spurious Emissions

Please refer CEPT/ERC Recommendation 74-01 Annex 1 (Fixed Service).

3.3.2 Measuring Instruments

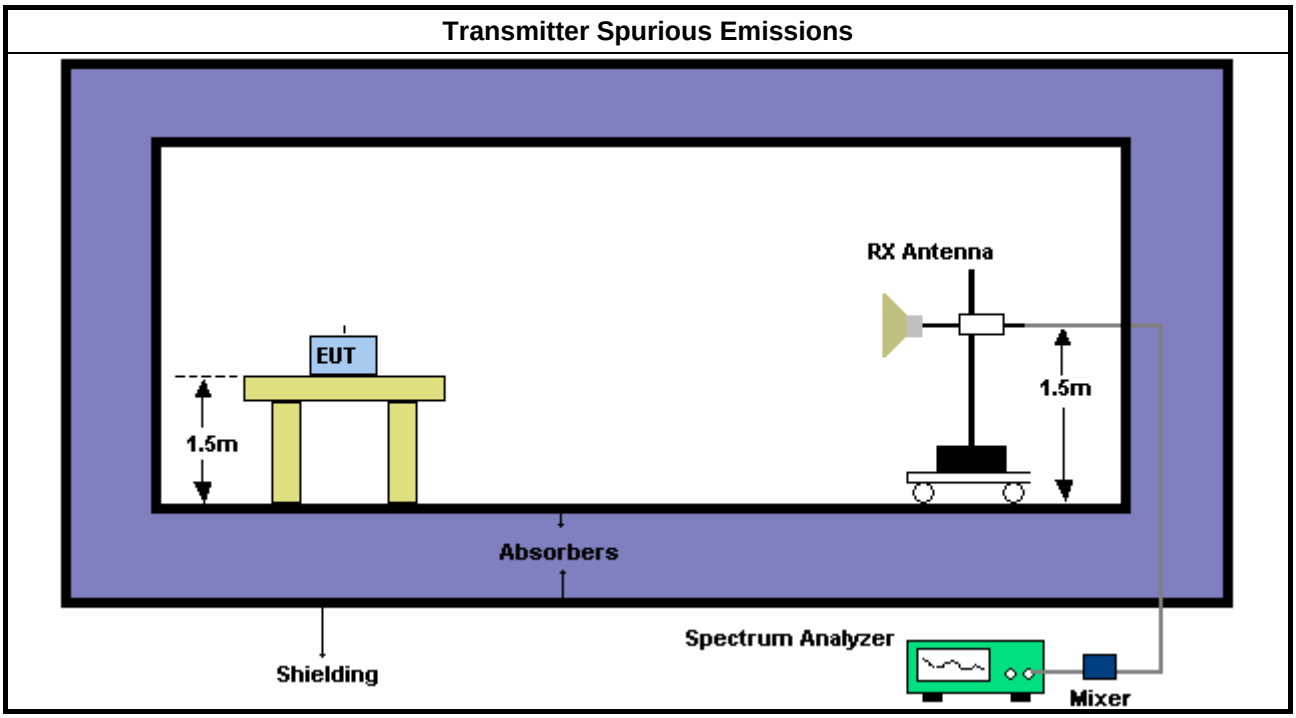
See list of measuring instruments of this test report.

3.3.3 Test Procedures

- Method of measurement: see EN 302 217-1 v3.1.1 clause 5.2.9.
- Transmitter spurious emissions shall fulfill the CEPT/ERC Recommendation 74-01 Annex 1 (Fixed Service) limits.

3.3.4 Test Setup

Transmitter Spurious Emissions



3.3.5 Test Result of Transmitter Spurious Emissions

Test Frequency (GHz)	58.32	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	381.01	-75.56	-25.56	-50.00	-73.39	-2.17	HORIZONTAL
2	424.01	-76.90	-26.90	-50.00	-75.86	-1.04	HORIZONTAL
3	510.00	-73.45	-23.45	-50.00	-74.87	1.42	HORIZONTAL
4	545.00	-73.25	-23.25	-50.00	-74.72	1.47	HORIZONTAL
5	570.00	-68.12	-18.12	-50.00	-69.62	1.50	HORIZONTAL
6	668.00	-65.08	-15.08	-50.00	-67.53	2.45	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	212.01	-66.28	-16.28	-50.00	-62.72	-3.56	VERTICAL
2	267.01	-67.16	-17.16	-50.00	-64.69	-2.47	VERTICAL
3	448.01	-68.91	-18.91	-50.00	-70.47	1.56	VERTICAL
4	638.00	-63.23	-13.23	-50.00	-67.40	4.17	VERTICAL
5	648.00	-66.21	-16.21	-50.00	-70.47	4.26	VERTICAL
6	670.00	-68.06	-18.06	-50.00	-72.53	4.47	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	60.48	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	208.01	-61.81	-11.81	-50.00	-54.78	-7.03	HORIZONTAL
2	426.01	-68.62	-18.62	-50.00	-67.64	-0.98	HORIZONTAL
3	435.01	-68.08	-18.08	-50.00	-67.41	-0.67	HORIZONTAL
4	490.00	-66.43	-16.43	-50.00	-67.53	1.10	HORIZONTAL
5	736.00	-70.59	-20.59	-50.00	-73.90	3.31	HORIZONTAL
6	802.00	-67.64	-17.64	-50.00	-71.76	4.12	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	262.01	-66.01	-16.01	-50.00	-63.50	-2.51	VERTICAL
2	290.01	-61.98	-11.98	-50.00	-59.72	-2.26	VERTICAL
3	304.01	-65.59	-15.59	-50.00	-63.52	-2.07	VERTICAL
4	430.01	-70.35	-20.35	-50.00	-71.55	1.20	VERTICAL
5	490.00	-68.15	-18.15	-50.00	-70.52	2.37	VERTICAL
6	698.00	-64.35	-14.35	-50.00	-69.06	4.71	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	62.64	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	399.01	-67.23	-17.23	-50.00	-65.41	-1.82	HORIZONTAL
2	536.00	-70.59	-20.59	-50.00	-72.05	1.46	HORIZONTAL
3	572.00	-67.79	-17.79	-50.00	-69.29	1.50	HORIZONTAL
4	578.00	-73.68	-23.68	-50.00	-75.19	1.51	HORIZONTAL
5	719.00	-67.41	-17.41	-50.00	-70.52	3.11	HORIZONTAL
6	818.00	-61.45	-11.45	-50.00	-65.89	4.44	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	111.01	-76.37	-26.37	-50.00	-74.36	-2.01	VERTICAL
2	212.01	-71.04	-21.04	-50.00	-67.48	-3.56	VERTICAL
3	224.01	-70.26	-20.26	-50.00	-66.99	-3.27	VERTICAL
4	250.01	-66.94	-16.94	-50.00	-64.33	-2.61	VERTICAL
5	337.01	-61.13	-11.13	-50.00	-59.99	-1.14	VERTICAL
6	472.00	-67.52	-17.52	-50.00	-69.53	2.01	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	64.80	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	151.01	-69.17	-19.17	-50.00	-63.93	-5.24	HORIZONTAL
2	294.01	-71.97	-21.97	-50.00	-68.08	-3.89	HORIZONTAL
3	297.01	-73.73	-23.73	-50.00	-69.94	-3.79	HORIZONTAL
4	343.01	-76.76	-26.76	-50.00	-73.88	-2.88	HORIZONTAL
5	449.01	-67.86	-17.86	-50.00	-67.63	-0.23	HORIZONTAL
6	578.00	-70.85	-20.85	-50.00	-72.36	1.51	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	371.01	-63.96	-13.96	-50.00	-63.77	-0.19	VERTICAL
2	472.00	-66.56	-16.56	-50.00	-68.57	2.01	VERTICAL
3	541.00	-68.71	-18.71	-50.00	-71.79	3.08	VERTICAL
4	555.00	-65.52	-15.52	-50.00	-68.78	3.26	VERTICAL
5	678.00	-67.98	-17.98	-50.00	-72.52	4.54	VERTICAL
6	733.00	-58.86	-8.86	-50.00	-64.25	5.39	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	58.32	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1612.14	-54.83	-4.83	-50.00	-39.29	-15.54	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1621.20	-58.85	-8.85	-50.00	-43.55	-15.30	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	60.48	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1601.14	-54.63	-4.63	-50.00	-39.09	-15.54	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1618.74	-58.74	-8.74	-50.00	-43.44	-15.30	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	62.64	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1607.47	-54.56	-4.56	-50.00	-39.02	-15.54	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1626.53	-58.18	-8.18	-50.00	-42.88	-15.30	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	64.80	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1634.15	-56.77	-6.77	-50.00	-41.56	-15.21	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	1647.56	-59.80	-9.80	-50.00	-44.66	-15.14	VERTICAL

Note:

Note 1: ">6dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	58.32	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	37046.30	-48.82	-18.82	-30.00	-59.79	10.97	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	36977.30	-48.53	-18.53	-30.00	-58.51	9.98	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	60.48	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	37384.50	-48.08	-18.08	-30.00	-59.68	11.60	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	36964.80	-49.38	-19.38	-30.00	-59.33	9.95	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	62.64	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	37177.80	-48.19	-18.19	-30.00	-59.41	11.22	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	37217.60	-49.45	-19.45	-30.00	-59.77	10.32	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	64.80	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	37551.70	-46.76	-16.76	-30.00	-58.70	11.94	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	36844.90	-47.19	-17.19	-30.00	-56.98	9.79	VERTICAL

Note:

Note 1: ">6dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)		58.32		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
40.48	3.00	-81.14	23.00	-30.01	-30.00	Complied

Test Frequency (GHz)		60.48		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
40.19	3.00	-83.11	23.10	-32.14	-30.00	Complied

Test Frequency (GHz)		62.64		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
40.87	3.00	-82.11	23.20	-31.10	-30.00	Complied

Test Frequency (GHz)		64.80		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
43.48	3.00	-83.12	23.30	-31.67	-30.00	Complied

3.4 Transmitter Frequency Tolerance

3.4.1 Limit of Transmitter Frequency Tolerance

Frequency Band	Tolerance Limit
Below 3 GHz	N/A
Above 57GHz	± 50 ppm
Other	± 15 ppm
Note: These measurements shall also be performed at normal and extreme test conditions.	

3.4.2 Measuring Instruments

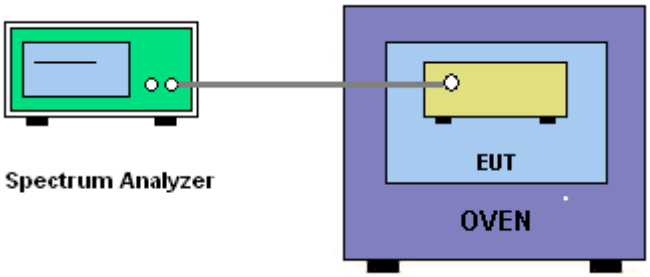
See list of measuring instruments of this test report.

3.4.3 Test Procedures

Method of measurement: see **EN 302 217-1 v3.1.1** clause 5.2.5.

3.4.4 Test Setup

Transmitter Frequency Tolerance



3.4.5 Test Result of Frequency Tolerance

Test Conditions	Measured Frequency (MHz)			
	58320	60480	62640	64800
NTNV	58319.0156	60480.0145	62640.0244	64800.0544
HTHV	58319.0384	60480.0126	62640.0312	64800.4371
HTLV	58319.0368	60480.0124	62640.0311	64800.4374
LTHV	58320.0438	60480.0071	62640.0045	64800.1477
LTLV	58320.0366	60480.0072	62640.0047	64800.1514
Max. Deviation Frequency	0.9844	0.0145	0.0312	0.4374
Max. Frequency Error (ppm)	16.87928669	0.239748677	0.498084291	6.75
Limit (ppm)	50	50	50	50
Result	**Complied**			

Note: NTNV : Normal Temperature Normal Voltage
HTHV: High Temperature High Voltage
HTLV: High Temperature Low Voltage
LTHV: Low Temperature High Voltage
LTLV: Low Temperature Low Voltage

4 Receiver Test Result

4.1 Receiver Spurious Emissions

4.1.1 Limit of Receiver Spurious Emissions

Please refer CEPT/ERC Recommendation 74-01 Annex 1 (Fixed Service).

4.1.2 Measuring Instruments

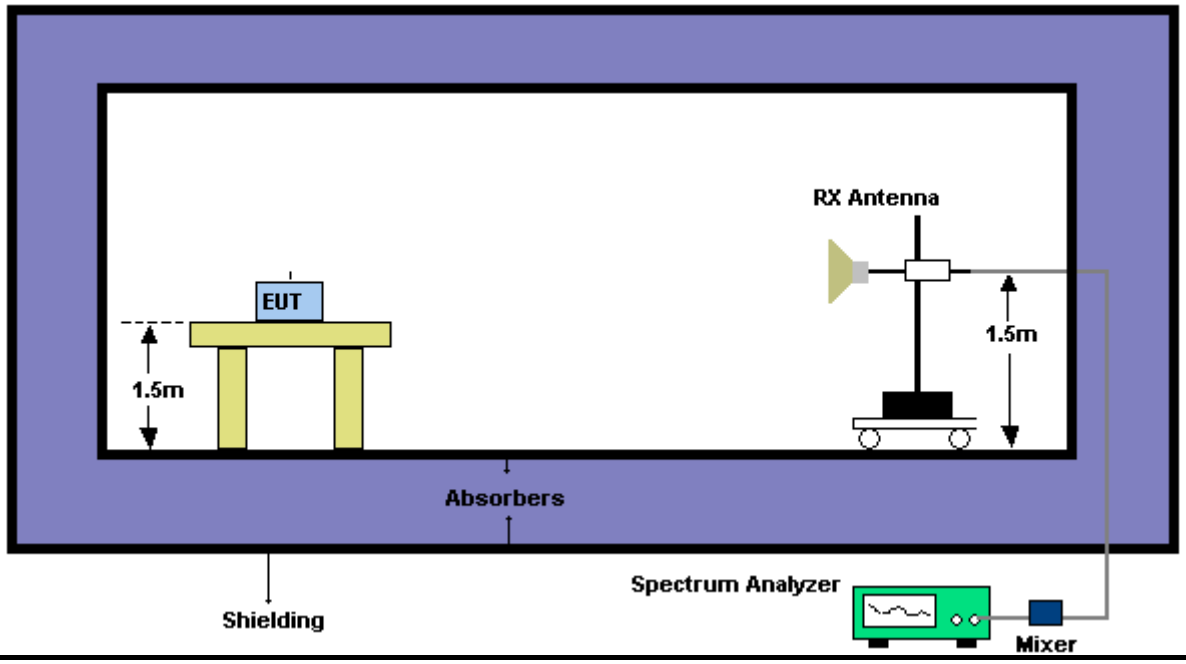
See list of measuring instruments of this test report.

4.1.3 Test Procedures

- Method of measurement: see EN 302 217-1 v3.1.1 clause 5.3.2.
- Transmitter spurious emissions shall fulfill the CEPT/ERC Recommendation 74-01 Annex 1 (Fixed Service) limits.

4.1.4 Test Setup

Receiver Spurious Emissions



4.1.5 Test Result of Receiver Spurious Emissions

Test Frequency (GHz)	58.32	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	250.01	-75.81	-25.81	-50.00	-70.33	-5.48	HORIZONTAL
2	328.01	-70.19	-20.19	-50.00	-67.04	-3.15	HORIZONTAL
3	351.01	-63.63	-13.63	-50.00	-60.90	-2.73	HORIZONTAL
4	494.00	-70.55	-20.55	-50.00	-71.77	1.22	HORIZONTAL
5	536.00	-65.59	-15.59	-50.00	-67.05	1.46	HORIZONTAL
6	639.00	-67.93	-17.93	-50.00	-70.00	2.07	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	98.01	-72.47	-22.47	-50.00	-71.13	-1.34	VERTICAL
2	104.01	-73.64	-23.64	-50.00	-72.16	-1.48	VERTICAL
3	150.01	-76.05	-26.05	-50.00	-71.99	-4.06	VERTICAL
4	249.01	-66.16	-16.16	-50.00	-63.53	-2.63	VERTICAL
5	288.01	-71.55	-21.55	-50.00	-69.27	-2.28	VERTICAL
6	351.01	-72.67	-22.67	-50.00	-71.91	-0.76	VERTICAL

Note:

Note 1: ">6dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	60.48	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	144.01	-72.79	-22.79	-50.00	-67.95	-4.84	HORIZONTAL
2	275.01	-74.19	-24.19	-50.00	-69.59	-4.60	HORIZONTAL
3	337.01	-69.98	-19.98	-50.00	-66.99	-2.99	HORIZONTAL
4	351.01	-74.63	-24.63	-50.00	-71.90	-2.73	HORIZONTAL
5	480.00	-63.77	-13.77	-50.00	-64.55	0.78	HORIZONTAL
6	536.00	-69.59	-19.59	-50.00	-71.05	1.46	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	98.01	-65.47	-15.47	-50.00	-64.13	-1.34	VERTICAL
2	189.01	-71.99	-21.99	-50.00	-67.91	-4.08	VERTICAL
3	196.01	-68.75	-18.75	-50.00	-64.80	-3.95	VERTICAL
4	224.01	-67.26	-17.26	-50.00	-63.99	-3.27	VERTICAL
5	386.01	-71.89	-21.89	-50.00	-72.11	0.22	VERTICAL
6	482.00	-72.84	-22.84	-50.00	-75.06	2.22	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	62.64	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	123.01	-75.77	-25.77	-50.00	-73.12	-2.65	HORIZONTAL
2	168.01	-74.43	-24.43	-50.00	-68.87	-5.56	HORIZONTAL
3	178.01	-70.31	-20.31	-50.00	-64.02	-6.29	HORIZONTAL
4	250.01	-62.81	-12.81	-50.00	-57.33	-5.48	HORIZONTAL
5	260.01	-67.67	-17.67	-50.00	-62.54	-5.13	HORIZONTAL
6	351.01	-72.63	-22.63	-50.00	-69.90	-2.73	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	448.01	-65.91	-15.91	-50.00	-67.47	1.56	VERTICAL
2	494.00	-71.33	-21.33	-50.00	-73.78	2.45	VERTICAL
3	639.00	-65.81	-15.81	-50.00	-69.99	4.18	VERTICAL
4	657.00	-61.17	-11.17	-50.00	-65.51	4.34	VERTICAL
5	741.00	-58.18	-8.18	-50.00	-63.73	5.55	VERTICAL
6	752.00	-62.93	-12.93	-50.00	-68.71	5.78	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	64.80	Test Range	9kHz~1GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	245.01	-65.13	-15.13	-50.00	-59.47	-5.66	HORIZONTAL
2	409.01	-70.50	-20.50	-50.00	-68.98	-1.52	HORIZONTAL
3	490.00	-67.15	-17.15	-50.00	-68.25	1.10	HORIZONTAL
4	520.00	-64.20	-14.20	-50.00	-65.64	1.44	HORIZONTAL
5	575.00	-67.66	-17.66	-50.00	-69.17	1.51	HORIZONTAL
6	657.00	-66.14	-16.14	-50.00	-68.44	2.30	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	85.01	-75.89	-25.89	-50.00	-72.57	-3.32	VERTICAL
2	138.01	-68.62	-18.62	-50.00	-65.47	-3.15	VERTICAL
3	223.01	-71.78	-21.78	-50.00	-68.49	-3.29	VERTICAL
4	314.01	-69.35	-19.35	-50.00	-67.55	-1.80	VERTICAL
5	342.01	-65.38	-15.38	-50.00	-64.37	-1.01	VERTICAL
6	510.00	-60.12	-10.12	-50.00	-62.80	2.68	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	58.32	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3489.67	-61.75	-11.75	-50.00	-54.93	-6.82	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3489.67	-62.07	-12.07	-50.00	-55.18	-6.89	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	60.48	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3489.00	-62.74	-12.74	-50.00	-55.92	-6.82	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3490.50	-62.66	-12.66	-50.00	-55.77	-6.89	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	62.64	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3480.17	-59.71	-9.71	-50.00	-52.83	-6.88	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3498.26	-60.44	-10.44	-50.00	-53.55	-6.89	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	64.80	Test Range	1GHz~21.2GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3519.67	-60.25	-10.25	-50.00	-53.47	-6.78	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	3499.54	-60.47	-10.47	-50.00	-53.58	-6.89	VERTICAL

Note:

Note 1: ">6dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	58.32	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	32473.10	-52.93	-22.93	-30.00	-63.68	10.75	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	32485.60	-51.50	-21.50	-30.00	-62.40	10.90	VERTICAL

Note:

Note 1: ">6dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	60.48	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	32391.70	-52.03	-22.03	-30.00	-62.85	10.82	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	32423.00	-50.27	-20.27	-30.00	-61.22	10.95	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	62.64	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	34264.80	-48.31	-18.31	-30.00	-57.80	9.49	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	34302.40	-51.76	-21.76	-30.00	-61.19	9.43	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)	64.80	Test Range	21.2GHz~40GHz

Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	32564.10	-50.00	-20.00	-30.00	-60.67	10.67	HORIZONTAL

Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB	
1	32413.40	-53.58	-23.58	-30.00	-64.55	10.97	VERTICAL

Note:

Note 1: “>6dB” means spurious emission levels that exceed the level of 6 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: Factor: Transmit Antenna Gain + Signal Generator Level - SA reading - Transmit Cable Loss.
Level= Read Level + Factor.

Test Frequency (GHz)		58.32		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
40.12	3.00	-84.33	23.00	-33.28	-30.00	Complied

Test Frequency (GHz)		60.48		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
41.12	3.00	-83.69	23.10	-32.52	-30.00	Complied

Test Frequency (GHz)		62.64		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
41.65	3.00	-84.56	23.20	-33.38	-30.00	Complied

Test Frequency (GHz)		64.80		Test Range	40GHz~132GHz	
Test Results						
Frequency (GHz)	Test Distance (m)	Rx Power (dBm)	Rx Ant. Gain (dBi)	EIRP Power (dBm)	Limit (dBm)	Result
41.66	3.00	-84.56	23.30	-33.48	-30.00	Complied

4.2 Minimum RSL

4.2.1 Limit of Minimum RSL

Spectral efficiency		Minimum RIC rate (Mbit/s)	Channel separation (MHz)	RSL for BER ≤ 10^{-6} (dBm) (see note 2)	RSL for BER ≤ 10^{-10} (dBm) (see note 2)
Reference index	Class				
1	1	28,5	50	-73	-71
		28,5 × N (N < 40) (see note 1)	N × 50 (N < 40)	-73 + 10logN	-71 + 10logN
		1 140	2 000 (N = 40)	-57	-55
2	2	57	50	-71	-69
		57 × N (N < 40)	N × 50 (N < 40)	-71 + 10logN	-69 + 10logN
		1 140	2 000 (N = 40)	-55	-53
3	3	85	50	-68	-66
		85 × N (N < 40)	N × 50 (N < 40)	-68 + 10logN	-66 + 10logN
		1 140	2 000 (N = 40)	-52	-50
4	4L	114	50	-65,5	-61,5
		114 × N (N < 25)	N × 50 (N < 25)	-65,5 + 10logN	-61,5 + 10logN
		2 850	1 250 (N = 25)	-51,5	-47,5
5	4H	175	50	-62	-58
		175 × N (N < 15)	N × 50 (N < 15)	-62 + 10logN	-58 + 10logN
		2 625	750 (N = 15)	-50	-46
6	5LA/5LB	210	50	-58,5	-54,5
		210 × N (N < 15)	N × 50 (N < 15)	-58,5 + 10logN	-54,5 + 10logN
		3 150	750 (N = 15)	-46,5	-42,5
7	5HA/5HB	245	50	-55	-51
		245 × N (N < 10)	N × 50 (N < 10)	-55 + 10logN	-51 + 10logN
		2 450	500 (N = 10)	-45	-41
8	6LA/6LB	280	50	-51	-47
		280 × N (N < 10)	N × 50 (N < 10)	-51 + 10logN	-47 + 10logN
		2 800	500 (N = 10)	-41	-37

NOTE 1: For N > 4 rounded down to the lower Mbit/s integer.
NOTE 2: Value of 10logN rounded to the closest 1/2 dB granularity.
NOTE 3: For *channels-aggregation/single-port* equipment, in the event that the device combining the two received signals is integrated in the equipment, the RSL thresholds will be relaxed by the combining device loss(e.g. 3 dB for a hybrid coupler).

4.2.2 Measuring Instruments

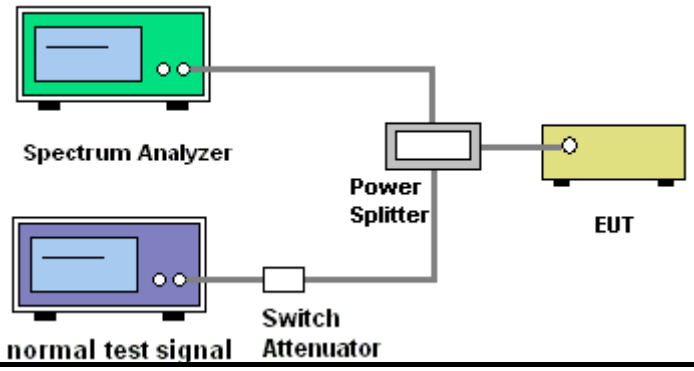
See list of measuring instruments of this test report.

4.2.3 Test Procedures

Method of measurement: see **EN 302 217-1 v3.1.1** clause 5.3.3.1.

4.2.4 Test Setup

Minimum RSL



4.2.5 Test Result of Minimum RSL

Minimum RSL						
Frequency Band	57-66GHz	**Test Freq. (GHz)**		58.32	60.48	64.80
Channel arrangements	ACCP	**Tnom**	**Vnom**	-70.00	-71.00	-69.00
Modulation	2000M-BPSK	**Tmin**	**Vnom**	-	-72.00	-
CS (MHz)	2000	**Tmax**	**Vnom**	-	-68.00	-
Spectral efficiency classes	1	**BER Criteria**		1.00E-06		
N	40	**Complied Limit**		-57.0		

Minimum RSL						
Frequency Band	57-66GHz	**Test Freq. (GHz)**		58.32	60.48	64.80
Channel arrangements	ACCP	**Tnom**	**Vnom**	-68.00	-70.00	-67.00
Modulation	2000M-BPSK	**Tmin**	**Vnom**	-	-71.00	-
CS (MHz)	2000	**Tmax**	**Vnom**	-	-67.00	-
Spectral efficiency classes	1	**BER Criteria**		1.00E-06		
N	40	**Complied Limit**		-55.0		

4.3 Co-channel Interference

4.3.1 Limit of Co-channel Interference

Spectral efficiency		Min. RIC rate (Mbit/s)	Channel separation (MHz)	C/I for BER ≤ 10^{-6} RSL degradation of 1 dB or 3 dB			
				Co-channel interference		Adjacent channel interference	
Reference index	Class			1 dB	3 dB	1 dB	3 dB
1	1	28,5 × N (1 ≤ N ≤ 40) (see note)	N × 50 (1 ≤ N ≤ 40)	23	19	0	-4
2	2	57 × N (1 ≤ N ≤ 40)					
3	3	85 × N (1 ≤ N ≤ 40)	N × 50 (1 ≤ N ≤ 40)	25	21	0	-4
4	4L	114 × N (1 ≤ N ≤ 25)	N × 50 (1 ≤ N ≤ 25)	27	23	0	-4
5	4H	175 × N (1 ≤ N ≤ 15)	N × 50 (1 ≤ N ≤ 15)	30	26	-2	-6
6	5LB	210 × N (1 ≤ N ≤ 15)	N × 50 (ACCP) (1 ≤ N ≤ 15)	33,5	29,5	-6	-10
	5LA	210 × N (1 ≤ N ≤ 15)	N × 50 (ACAP) (1 ≤ N ≤ 15)	33,5	29,5	+3	-1
7	5HB	245 × N (1 ≤ N ≤ 10)	N × 50 (ACCP) (1 ≤ N ≤ 10)	37	33	-3	-7
	5HA	245 × N (1 ≤ N ≤ 10)	N × 50 (ACAP) (1 ≤ N ≤ 10)	37	33	+6	+2
8	6LB	280 × N (1 ≤ N ≤ 10)	N × 50 (ACCP) (1 ≤ N ≤ 10)	40,5	36,5	0	-4
	6LA	280 × N (1 ≤ N ≤ 10)	N × 50 (ACAP) (1 ≤ N ≤ 10)	40,5	36,5	+9	+5
NOTE: RIC rounded down to closest multiple of 1 Gbit/s rate shall also be considered valid.							

4.3.2 Measuring Instruments

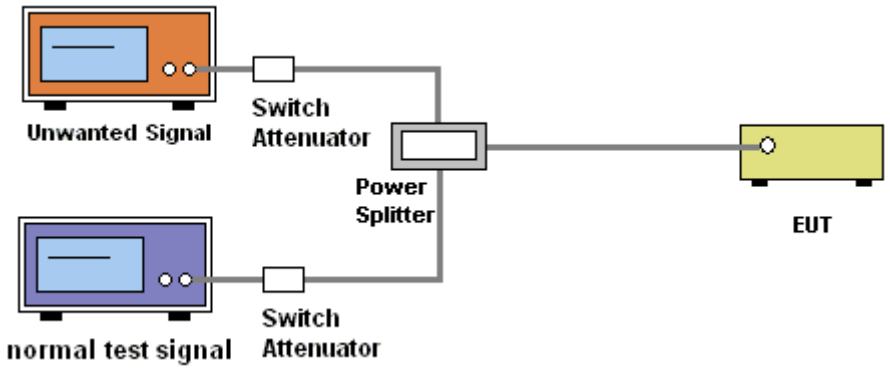
See list of measuring instruments of this test report.

4.3.3 Test Procedures

Method of measurement: see **EN 302 217-1 v3.1.1** clause 5.3.3.2.

4.3.4 Test Setup

Co-channel Interference



4.3.5 Test Result of Co-channel Interference

Co-channel Interference (Test Freq.: 60.48GHz)								
Frequency Band		57-66GHz	**Channel arrangements**		ACCP	**CS (MHz)**		2000
Spectral Classes	**N**	**Modulation**	**Wanted Signal (dBm)**	**Unwanted Signal (dBm)**	**C/I ratio (dB)**	**Degradation (dB)**	**Measure BER**	**BER Limit**
1	40	2000M-BPSK	-71.00	-94.00	23	1	8.40E-07	1.00E-06
2	40	2000M-QPSK	-70.00	-97.00	27	1	7.73E-07	1.00E-06

4.4 Adjacent Channel Interference Sensitivity

4.4.1 Limit of Adjacent Channel Interference Sensitivity

See this test report clause 4.3.1.

4.4.2 Measuring Instruments

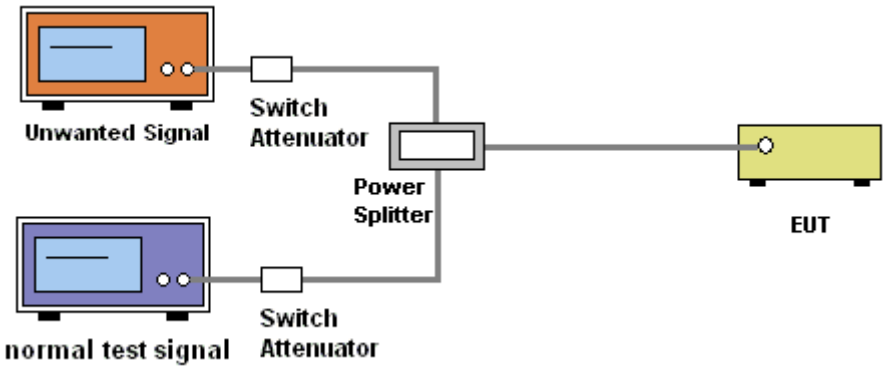
See list of measuring instruments of this test report.

4.4.3 Test Procedures

Method of measurement: see **EN 302 217-1 v3.1.1** clause 5.3.3.3.

4.4.4 Test Setup

Adjacent Channel Interference Sensitivity



4.4.5 Test Result of Adjacent Channel Interference Sensitivity

Adjacent Channel Interference Sensitivity (Test Freq.: 60.48GHz)								
Frequency Band		57-66GHz	**Channel arrangements**		ACCP	**CS (MHz)**		2000
Spectral Classes	**N**	**Modulation**	**Wanted Signal (dBm)**	**Unwanted Signal (dBm)**	**C/I ratio (dB)**	**Degradation (dB)**	**Measure BER**	**BER Limit**
1	40	2000M-BPSK	-71.00	-71.00	0	1	7.04E-07	1.00E-06
2	40	2000M-QPSK	-70.00	-70.00	0	1	7.82E-07	1.00E-06

4.5 Second Adjacent Channel Interference Sensitivity

4.5.1 Limit of Second Adjacent Channel Interference Sensitivity

See this test report clause 4.3.1.

4.5.2 Measuring Instruments

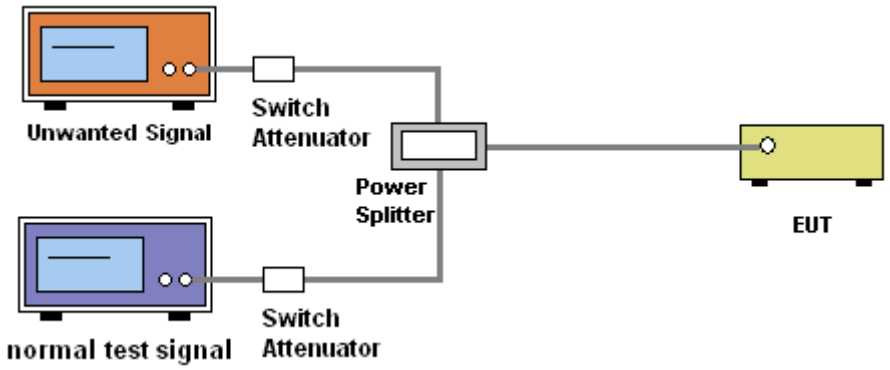
See list of measuring instruments of this test report.

4.5.3 Test Procedures

Method of measurement: see **EN 302 217-1 v3.1.1** clause 5.3.3.3.

4.5.4 Test Setup

Second Adjacent Channel Interference Sensitivity



4.5.5 Test Result of Second Adjacent Channel Interference Sensitivity

Second Adjacent Channel Interference Sensitivity (Test Freq.: 60.48GHz)								
Frequency Band		57-66GHz	**Channel arrangements**		ACCP	**CS (MHz)**		2000
Spectral Classes	**N**	**Modulation**	**Wanted Signal (dBm)**	**Unwanted Signal (dBm)**	**C/I ratio (dB)**	**Degradation (dB)**	**Measure BER**	**BER Limit**
1	40	2000M-BPSK	-71.00	-71.00	0	1	7.17E-07	1.00E-06
2	40	2000M-QPSK	-70.00	-70.00	0	1	7.36E-07	1.00E-06

4.6 CW Interference

4.6.1 Limit of CW Interference

CW Interference				
Receive Range	CW Range	C/I ratio (dB)	BER Criteria	Degradation (dB)
5.2 – 13 GHz	30MHz – 26GHz	-30	10^{-5}	0
13 – 150 GHz	30MHz – 2th harmonic	-30	10^{-5}	0

4.6.2 Measuring Instruments

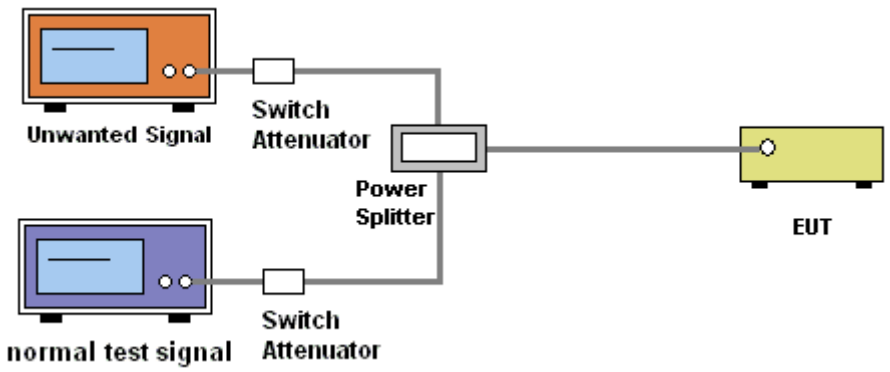
See list of measuring instruments of this test report.

4.6.3 Test Procedures

Method of measurement: see **EN 302 217-1 v3.1.1** clause 5.3.3.4.

4.6.4 Test Setup

CW Interference



4.6.5 Test Result of CW Interference

CW Interference (Test Freq.: 60.48GHz)								
Frequency Band		57-66GHz	**Channel arrangements**		ACCP	**CS (MHz)**		2000
CW Signal Range		30MHz-2th Harmonic				**Out-Band CS %**		250%
Spectral Classes	**N**	**Modulation**	**Wanted Signal (dBm)**	**Unwanted Signal (dBm)**	**C/I ratio (dB)**	**Degradation (dB)**	**Measure BER**	**BER Limit**
1	40	2000M-BPSK	-71.00	-41.00	-30	0	8.14E-07	1.00E-05
2	40	2000M-QPSK	-70.00	-40.00	-30	0	7.07E-07	1.00E-05

5 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Dec. 25, 2017	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2017	Jun. 01, 2018	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 22, 2016	Nov. 21, 2017	Conducted (TH01-CB)
*Mixer	OML	M15HW/A	V91113-1	50 ~ 75 GHz	Sep. 14, 2015	Sep. 13, 2017	Conducted (TH01-CB)
*Mixer	OML	M12HW/A	E91113-1	60 ~ 90 GHz	Sep. 17, 2015	Sep. 16, 2017	Conducted (TH01-CB)
*Mixer	OML	M08HW/A	F91113-1	90 ~ 140 GHz	Sep. 21, 2015	Sep. 20, 2017	Conducted (TH01-CB)
*Standard Horn Antenna	Custom Microwave	M19RH	U91113-A	40 ~ 60 GHz	N.C.R	N.C.R	Conducted (TH01-CB)
*Standard Horn Antenna	Custom Microwave	M15RH	V91113-A	50 ~ 75 GHz	N.C.R	N.C.R	Conducted (TH01-CB)
*Standard Horn Antenna	Custom Microwave	M12RH	E91113-A	60 ~ 90 GHz	N.C.R	N.C.R	Conducted (TH01-CB)
*Standard Horn Antenna	Custom Microwave	M08RH	F91113-A	90 ~ 140 GHz	N.C.R	N.C.R	Conducted (TH01-CB)
Low Pass Filter	EMEC	LPF-24-200-40	S/N-001	24MHz below pass	Oct. 24, 2016	Oct. 23, 2017	Conducted (TH01-CB)
Spectrum Analyzer	R&S	FSV40	101024	9kHz ~ 40GHz	Aug. 31, 2017	Aug. 30, 2018	Radiation (05CH01-CB)
Pre-Amplifier	WIRELESS	FPA-6592G	060027	0.1MHz~1.4GHz	Apr. 25, 2017	Apr. 24, 2018	Radiation (05CH01-CB)
Pre-Amplifier	EMCI	EMC12630SE	980383	1GHz ~ 26.5GHz	Aug. 08, 2017	Aug. 07, 2018	Radiation (05CH01-CB)
Bilog Antenna	Schaffner	CBL6112B & N-6-06	2894 & AT-N0608	30MHz ~ 1GHz	Feb. 07, 2017	Feb. 06, 2018	Radiation (05CH01-CB)
Horn Antenna	COM-POWER	AH-118	071028	1GHz ~ 18GHz	Jun. 14, 2017	Jun. 13, 2018	Radiation (05CH01CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 05, 2017	Jul. 04, 2018	Radiation (05CH01CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
CABLE	Marvelous	N/A	CAB-03	30MHz ~ 1GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (05CH01-CB)
CABLE	Woken	N/A	High Cable-25+26	1GHz ~ 26.5GHz	Oct. 24, 2016	Oct. 23, 2017	Radiation (05CH01-CB)
Test Software	Audix	E3	5.04.1019f	N/A	N/A	N/A	Radiation (05CH01-CB)

Note: Calibration Interval of instruments listed above is one year.
N.C.R. means Non-Calibration required.

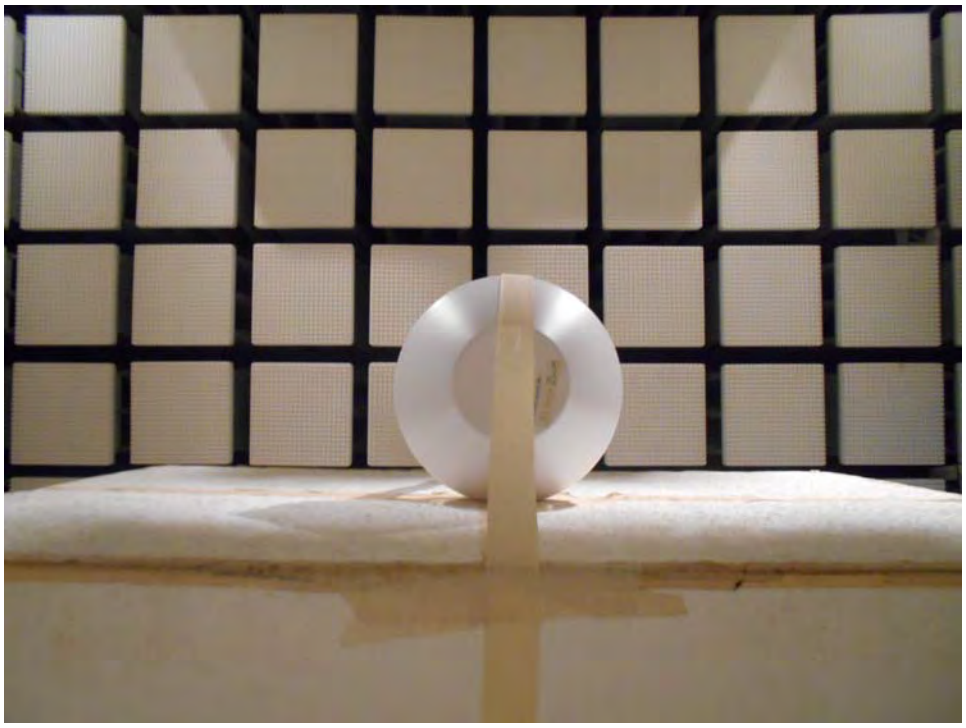
6 Measurement Uncertainty

Test Items	Uncertainty	Remark
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Radiated Emission (40GHz ~ 220GHz)	4.7 dB	Confidence levels of 95%

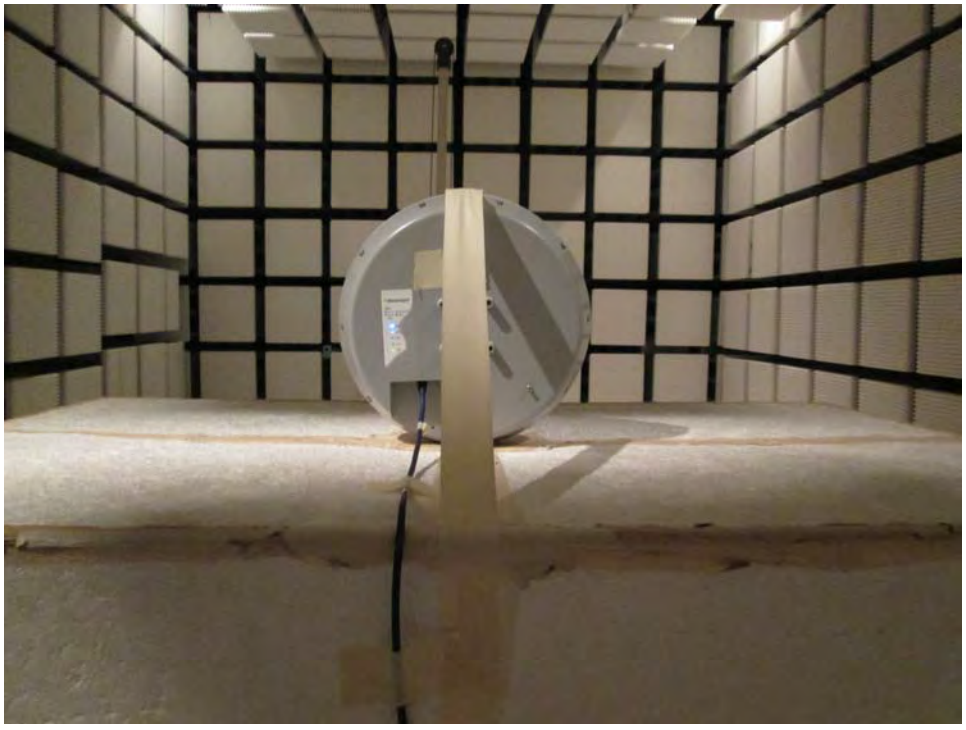
Appendix A. Test Photos

1. Photographs of Test Configuration

FRONT VIEW



REAR VIEW



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