

Prüfbericht-Nr.: Test Report No.:	50317237 001	Auftrags-Nr.: Order No.:	238106914	Seite 1 von 45 Page 1 of 45
Kunden-Referenz-Nr.: Client Reference No.:	N/A	Auftragsdatum: Order date:	26-Jun-2019	
Auftraggeber: Client:	TOSHIBA TEC Singapore Pte. Ltd 2 Ang Mo Kio Street 62, 569138, Singapore			
Prüfgegenstand: Test item:	PORTABLE PRINTER			
Bezeichnung / Typ-Nr.: Identification / Type No.:	B-FP2D-GH30-QM-S			
Auftrags-Inhalt: Order content:	NCC LP0002 Test report			
Prüfgrundlage: Test specification:	NCC Low-power Radio-frequency Devices Technical Regulations LP0002(2018) Section 3.10.1			
Wareneingangsdatum: Date of receipt:	04-Nov-2019			
Prüfmuster-Nr.: Test sample No.:	A001011487-014 A001011487-015			
Prüfzeitraum: Testing period:	13-Nov-2019 – 18-Nov-2019			
Ort der Prüfung: Place of testing:	EMC/RF Laboratory Taipei			
Prüflaboratorium: Testing laboratory:	TUV Rheinland Taiwan Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
 25-Nov-2019 Mars Y.J. Lin/ Project Engineer Datum Name / Stellung Unterschrift <i>Date(Report Date)</i> <i>Name / Position</i> <i>Signature</i>		 26-Nov-2019 Rene Charton/ Expert Datum Name / Stellung Unterschrift <i>Date</i> <i>Name / Position</i> <i>Signature</i>		
Sonstiges / Other:				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Passed

5.1.2 MAXIMUM CONDUCTED OUTPUT POWER

RESULT: Passed

5.1.3 20dB BANDWIDTH

RESULT: Passed

5.1.4 CONDUCTED SPURIOUS EMISSIONS AND FREQUENCY BAND EDGE MEASURED IN 100kHz BANDWIDTH

RESULT: Passed

5.1.5 SPURIOUS EMISSION

RESULT: Passed

5.1.6 FREQUENCY SEPARATION

RESULT: Passed

5.1.7 NUMBER OF HOPPING FREQUENCY

RESULT: Passed

5.1.8 TIME OF OCCUPANCY

RESULT: Passed

5.1.9 MAINS CONDUCTED EMISSIONS

RESULT: Passed

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1. General Remarks

1.1 Complementary Materials

The following attachments are integral parts of this test report:

Appendix P: Photo Documentation internal view
(File Name: 50317237 001 APPENDIX P)

Appendix D: Test Result of Radiated Emissions
(File Name: 50317237 001 APPENDIX D)

Test Specifications

The following standards were applied.

Table 1: Applied Standard and Test Levels

Radio
NCC Low-power Radio-frequency Devices Technical Regulations LP0002(2018)(107 年 1 月 10 日)

1.2 Decision Rule of conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard

2. Test Sites

2.1 Test Laboratory

TUV Rheinland Taiwan Ltd.

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

TUV Rheinland Taiwan Ltd.

AC Mains Conduction:
11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)
FCC Registration No.: 180491
IC Canada Registration No.: 9465A

Conducted Test/Radiated Test:
No. 458-18, Sec 2, Fenliao., Linkou Dist.
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 226631
IC Canada Registration No.: 25563

TAF Accredited NCC Test Lab. No.:3567
TAF ISO17025 Certification effective period: 6th-May-2019 to 05th-May-2022



2.3 List of Test and Measurement Instruments

Table 2: List of Test and Measurement Equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESR7	102108	2019/2/06	2020/2/05
Spectrum Analyzer	R&S	FSV40	101508	2019/2/05	2020/2/04
Pre-Amplifier	Agilent	8447D	2944A10772	2019/2/22	2020/2/21
Pre-Amplifier	EMCI	EMC051845SE	980633	2019/2/25	2020/2/24
Pre-Amplifier	EMCI	EMC184045SE	980657	2019/2/23	2020/2/22
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2019/1/14	2020/1/13
Horn Antenna	ETS-Lindgren	3117	00218930	2018/12/27	2019/12/26
Horn Antenna	SCHWARZBECK	BBHA 9170	00887	2019/4/12	2020/4/11
Loop Antenna	EMCI	LPA600	287	2018/12/20	2019/12/19
Test Software	Audix	e3	Ver. 9	N/A	N/A
Test Cable	HUBER+SUHNER	SUCOFLEX 104EA 9k~18G	800056/4EA	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 104 9k~18G	804680/4	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 104 9k~18G	MY37202/4	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 102EA 1G~40G	800898/2EA	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 102EA 1G~40G	800901/2EA	2019/4/18	2020/4/17
Test Cable	HUBER+SUHNER	SUCOFLEX 102EA 1G~40G	801027/2EA	2019/4/18	2020/4/17
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100797	2019/1/16	2020/1/16
Two-Line V-Network (for EUT)	Rohde & Schwarz	ENV216	101243	2019/6/23	2020/06/22
Two-Line V-Network	Rohde & Schwarz	ENV216	101262	2019/7/16	2020/7/15
Telecom ISN 4 Line	Fischer Custom Communications	FFCC-TLISN- T4-02-09	101168	2019/1/02	2020/1/01
Impedance Stabilization Network	TESEQ	ISN T800	51949	2019/2/20	2020/2/19
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54- 102102-HN	2019/7/25	2020/7/24
Spectrum Analyzer	R&S	FSV40	101513	2019/2/8	2020/2/7
Thermo Chamber	Giant Force	GHT-150-40-CP- SD	MAA1902-010	2019/2/1	2020/1/31
Signal Generator	R&S	SMB100A03	181335	2019/1/23	2020/1/22
Power Meter	Anritsu	ML2495A	1901008	2019/4/29	2020/4/28
Power Sensor	Anritsu	MA2411B	1725269	2019/4/29	2020/4/28

2.4 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.5 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular schedule using in house standards or comparisons.

2.6 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements .

Table 3: Emission Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	± 0.1 ppm
RF power/RF Exposure(MPE), conducted	± 1.5 dB
RF power density, conducted	± 3 dB
spurious emissions, conducted	± 3 dB
all emissions, radiated	± 6 dB
Temperature	± 1 °C
Humidity	± 5 %
DC and low frequency voltages	± 3 %

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a PORTABLE PRINTER. It contains a Bluetooth compatible module enabling the user to communicate data through a Wireless interface.
For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 System Details and Ratings

Table 4: Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	PORTABLE PRINTER
Type Identification	B-FP2D-GH30-QM-S
Brand Name	FALCON

Table 5: Technical Specification of EUT

Technical Specification	Value
Operating Frequencies	2402~2480 MHz
Channel Spacing	1 MHz
Channel number	79
Operation Voltage	7.4Vdc
Modulation	GFSK, $\pi/4$ QPSK, 8 DPSK
Antenna gain	1.4dBi

Table 6: Frequency hopping information

Technical Specification	Description
Hopping Range	Hereby we declare that the maximum frequency of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification v5.0 for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04).
Hopping Sequence	Example of a 79 hopping sequence in data mode: 33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73,07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56,69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43,15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47,
Receiver input bandwidth	The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

3.3 Independent Operation Modes

Basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Receiving
- C. Hopping
- D. Normal

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Table 7: Table for Parameters of Test Software Setting

Mode	Channel Frequency		
	2402 MHz	2441 MHz	2480 MHz
1DH5	Default	Default	Default
2DH5	Default	Default	Default
3DH5	Default	Default	Default

4.2 Test Operation and Test Software

Setup for testing: Test samples are provided with a USB interface which makes it possible to control them through a test software installed on a notebook computer.

This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed in section 3.3 as appropriate.

The samples were used as follows:

Conducted: A001011487-015

Radiation: A001011487-014

Full test was applied on all test modes, but only worst case was shown

Test Software	TeraTerm 4.1
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4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

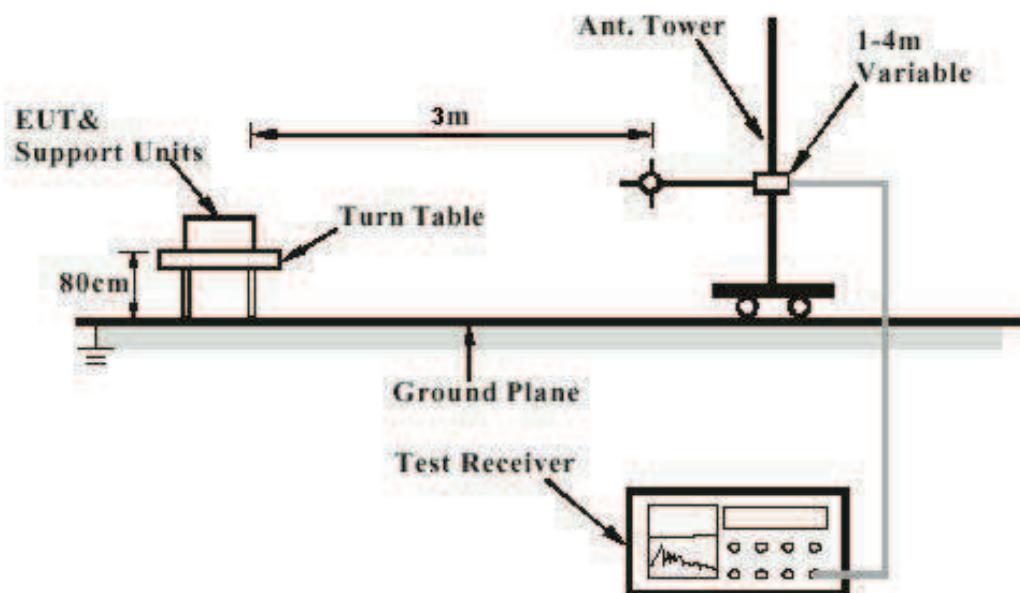
Description	Manufacturer	Model No.	Serial No.
Notebook(EMC-06)	Lenovo	TP00048A	PB-0F8B2

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1 GHz are done with a table height of 1.5m

Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

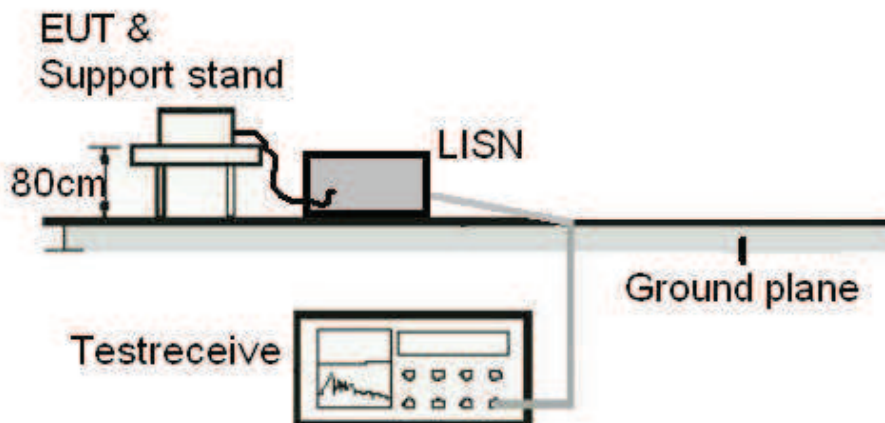
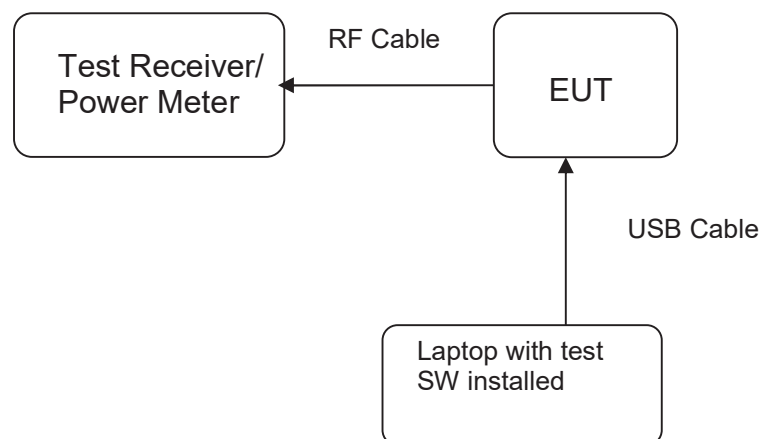


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test standard : LP0002(2018): 2.2, 3.10.1.3

Requirement : use of approved antennas only with directional gains that do not exceed 6 dBi

According to the manufacturer declaration, the EUT has an antenna with a directional gain of 1.4dBi. The antenna is a printed PCB trace with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Refer to EUT photo for details.

5.1.2 Maximum conducted output power

RESULT:

Passed

Test standard : LP0002(2018): 3.10.1.2(1)(B)
 Basic standard : ANSI C63.10:2013, LP0002(2018) Appendix II
 Kind of test site : Conducted room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A

 Ambient temperature : 20-24 °C
 Relative humidity : 50-65 %
 Atmospheric pressure : 100-103 kPa

Table 8: Test result of Peak Output Power, 1DH5

Channel	Channel Frequency	Peak Output Power		Average Output Power	Limit
	(MHz)	(dBm)	(W)	(W)	(W)
Low Channel	2402	2.43	0.00175	0.00167	0.125
Middle Channel	2441	2.65	0.00184	0.00178	0.125
High Channel	2480	2.28	0.00169	0.00162	0.125

Pmax: 1.84mW

Table 9: Test result of Peak Output Power, 2DH5

Channel	Channel Frequency	Peak Output Power		Average Output Power	Limit
	(MHz)	(dBm)	(W)	(W)	(W)
Low Channel	2402	0.88	0.00122	0.00067	0.125
Middle Channel	2441	0.58	0.00114	0.00062	0.125
High Channel	2480	-0.14	0.00097	0.00051	0.125

Pmax: 1.22mW

Table 10: Test result of Peak Output Power, 3DH5

Channel	Channel Frequency	Peak Output Power		Average Output Power	Limit
	(MHz)	(dBm)	(W)	(W)	(W)
Low Channel	2402	1	0.00126	0.00068	0.125
Middle Channel	2441	0.74	0.00119	0.00064	0.125
High Channel	2480	-0.08	0.00098	0.00052	0.125

Pmax: 1.26mW

The maximum of Average output power is 2.51dBm(1.78mW)

5.1.3 20dB Bandwidth

RESULT:
Passed

Test standard : LP0002(2018): 3.10.1.6 (1)(A)
 ANSI C63.10:2013
 Basic standard : LP0002(2018) Appendix II
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A
 Ambient temperature : 20-24°C
 Relative humidity : 50-65%
 Atmospheric pressure : 100-103 kPa

Table 11: Test result of 20dB Bandwidth, 1DH5

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.1201	1.5	Pass
Mid Channel	2441	1.1209	1.5	Pass
High Channel	2480	1.1179	1.5	Pass

Note: Limit is for Channel Separation of 1 MHz and a power limit of 125 mW.

Table 12: Test result of 20dB Bandwidth, 3DH5

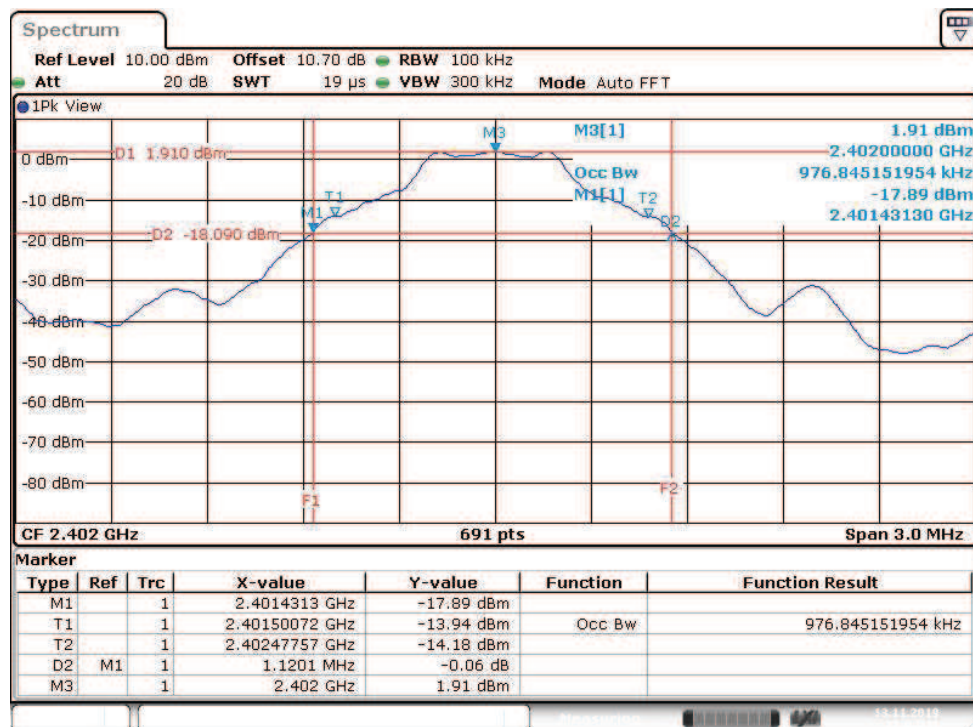
Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.3726	1.5	Pass
Mid Channel	2441	1.3726	1.5	Pass
High Channel	2480	1.3756	1.5	Pass

Note: Limit is for Channel Separation of 1 MHz and a power limit of 125 mW.

If the carrier separation frequency of a Bluetooth Device is set at 1 MHz due to the firmware setting and the Bluetooth Standard, then for power <125 mW the limit for the 20 dB Bandwidth, becomes 1 MHz / 0.66666 = 1.5 MHz.

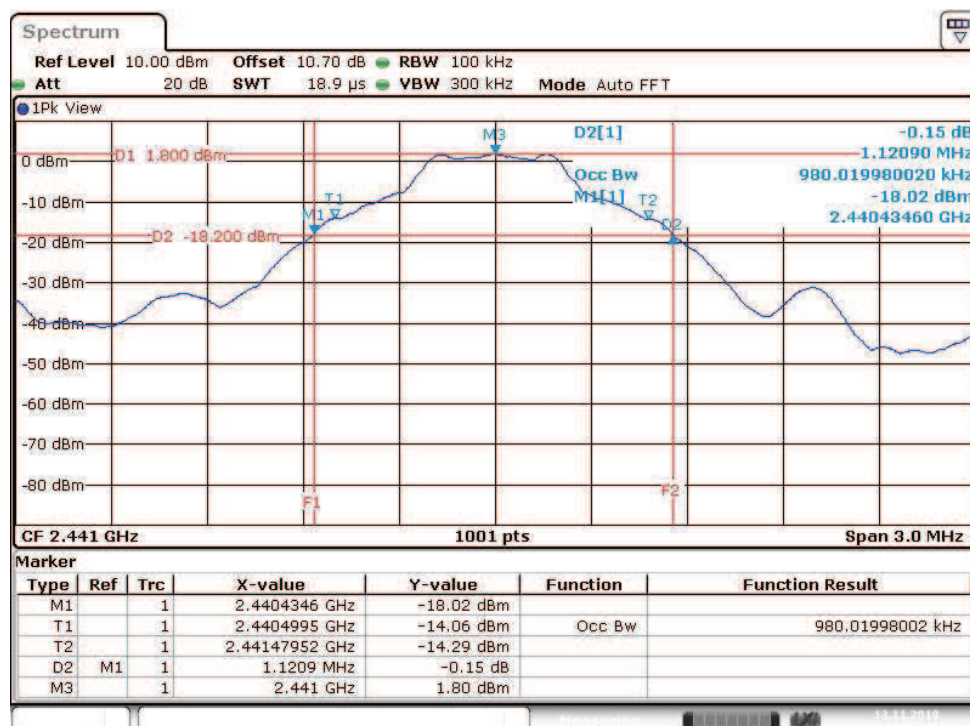
Test Plot of 20dB Bandwidth, 1DH5

Low Channel

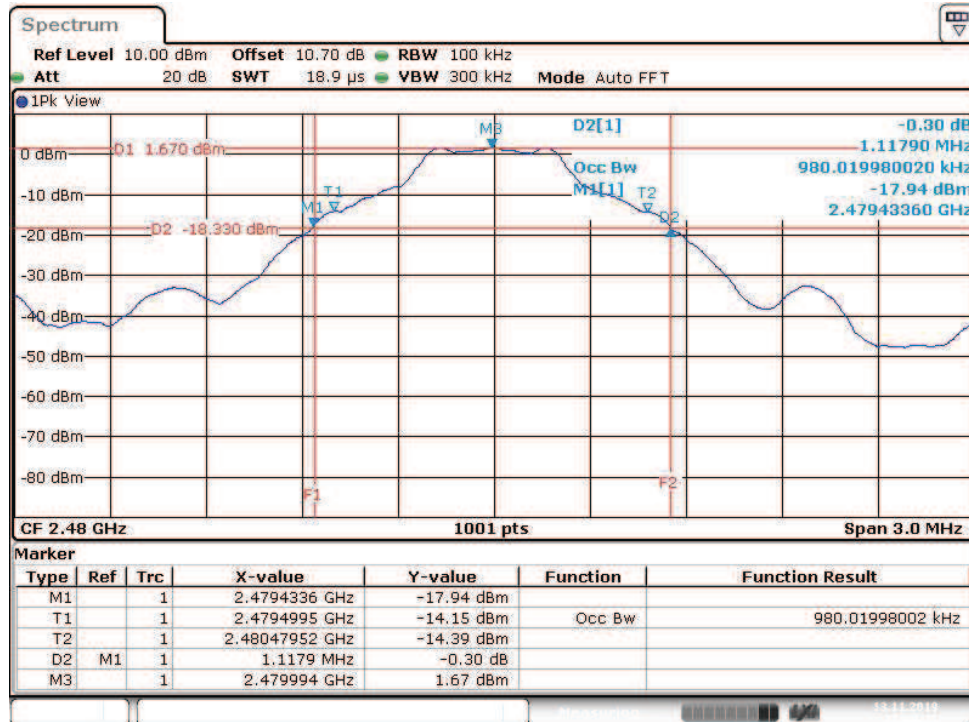


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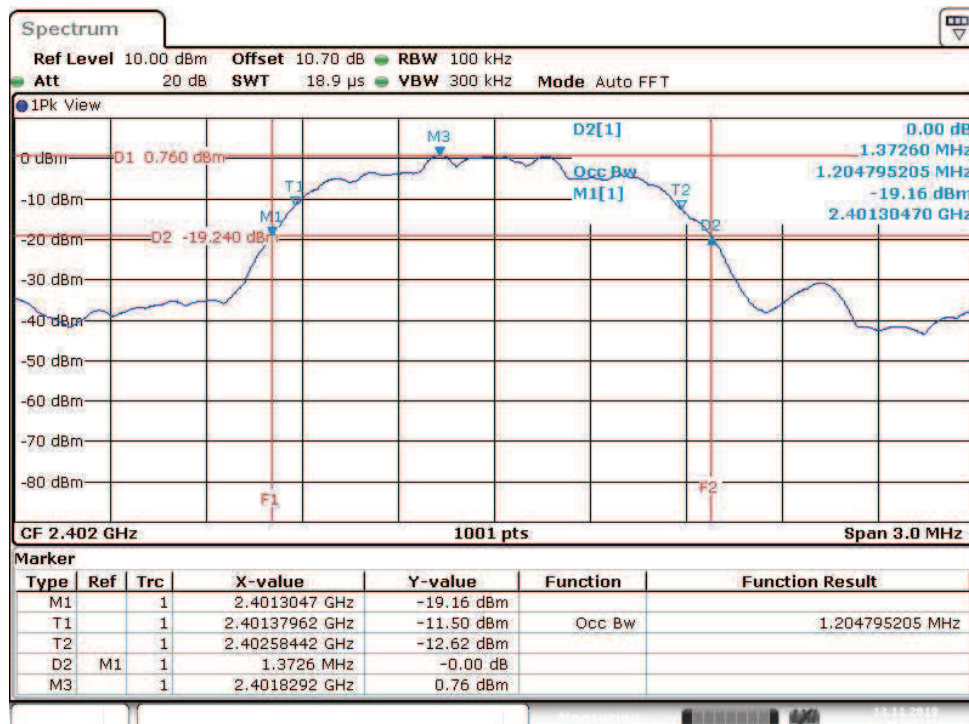
Middle Channel



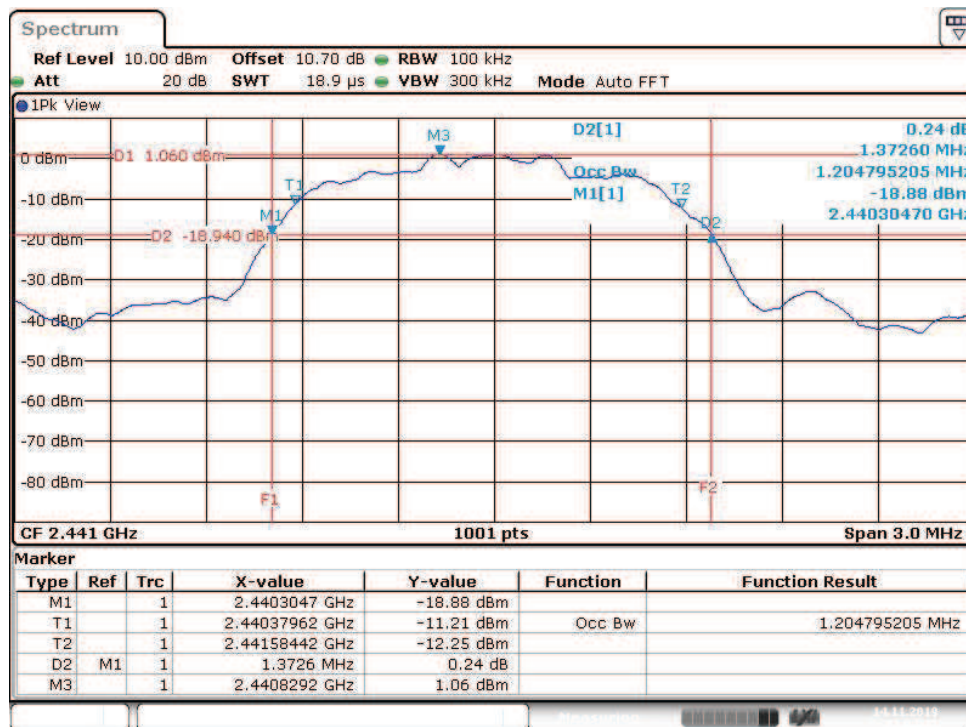
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High Channel


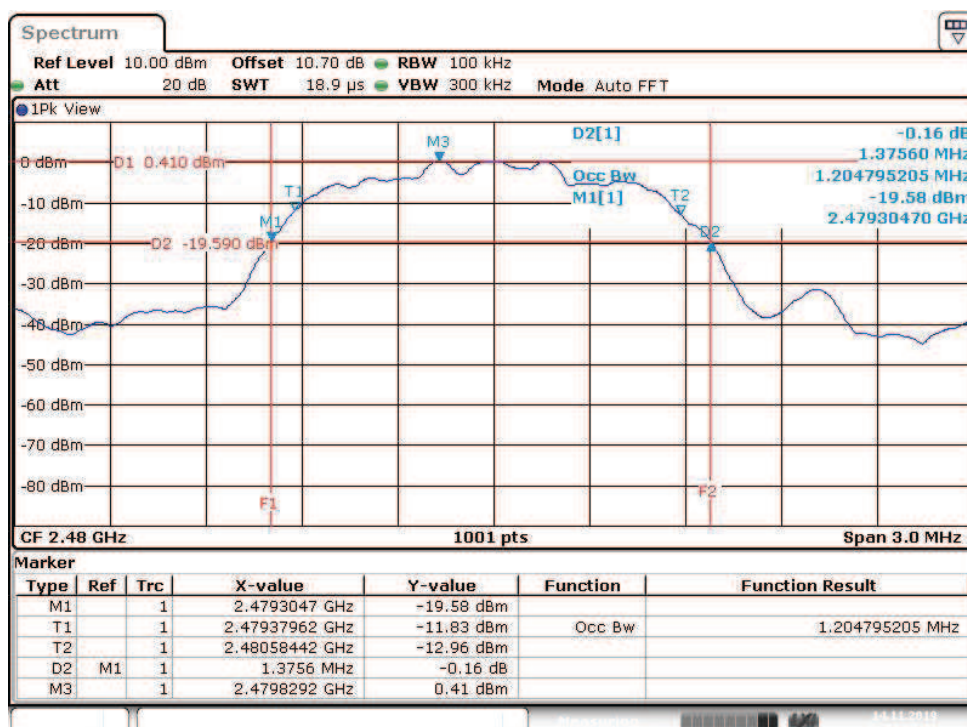
Date: 13.NOV.2019 15:40:36

Test Plot of 20dB Bandwidth, 3DH5
Low Channel


Date: 13.NOV.2019 16:40:24

Middle Channel


Date: 14.NOV.2019 13:37:03

High Channel


Date: 14.NOV.2019 14:10:03

5.1.4 Conducted spurious emissions and Frequency Band Edge measured in 100kHz Bandwidth

RESULT:**Passed**

Test standard	:	LP0002(2018): 3.10.1.5
Basic standard	:	ANSI C63.10:2013, KDB558074 LP0002(2018) Appendix II
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power)
Kind of test site	:	Conducted room

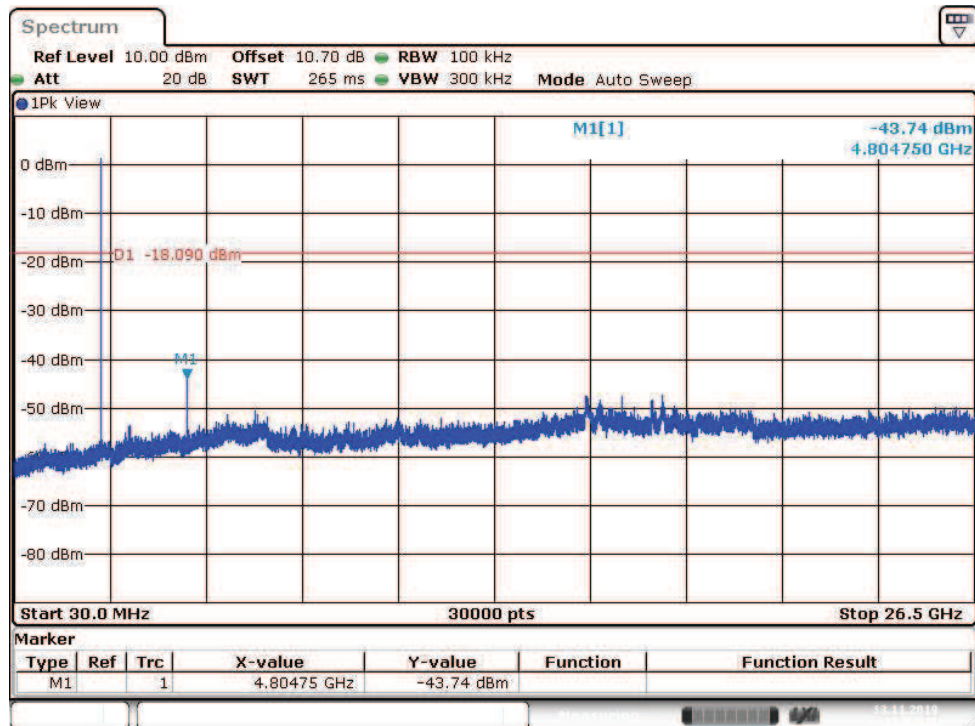
Test setup

Test Channel	:	Low/ Middle/ High for spurious, Low/High for Band Edge
Operation Mode	:	A, C
Ambient temperature	:	20-24°C
Relative humidity	:	50-65%
Atmospheric pressure	:	100-103 kPa

All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achieved as well. Due to the small size of the RF circuit and that there are no inductive components of significant size connected to the antenna port, 9kHz to 30MHz frequency range is not tested based on technical judgment.

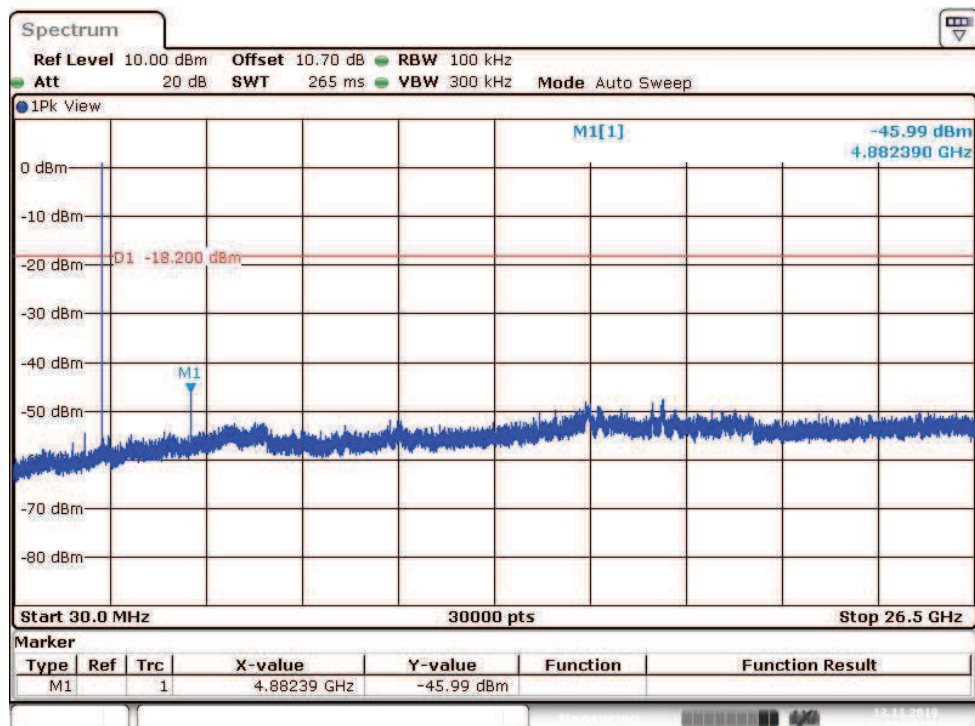
Test Plot of 100kHz Conducted Emissions, 1DH5

Low Channel

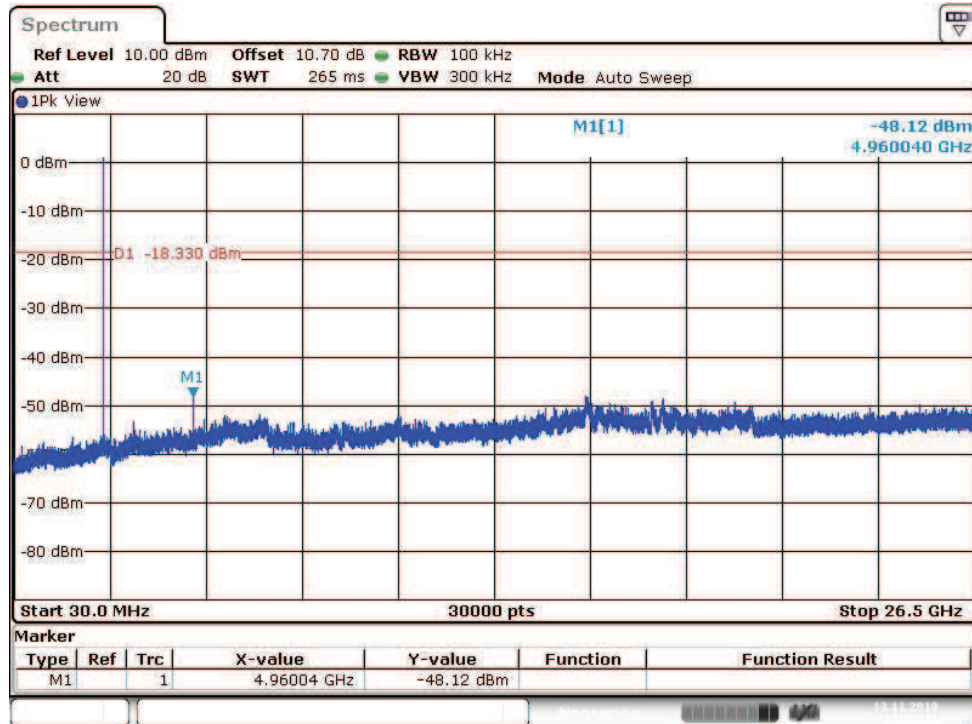


Date: 13.NOV.2019 13:51:27

Middle Channel



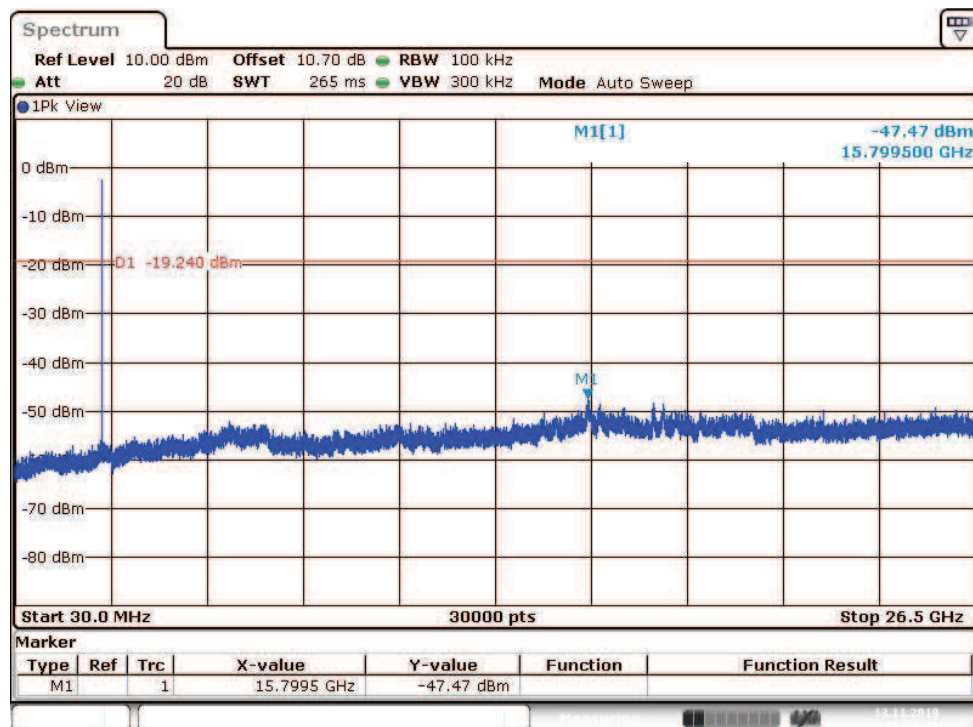
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High Channel


Date: 13.NOV.2019 15:42:45

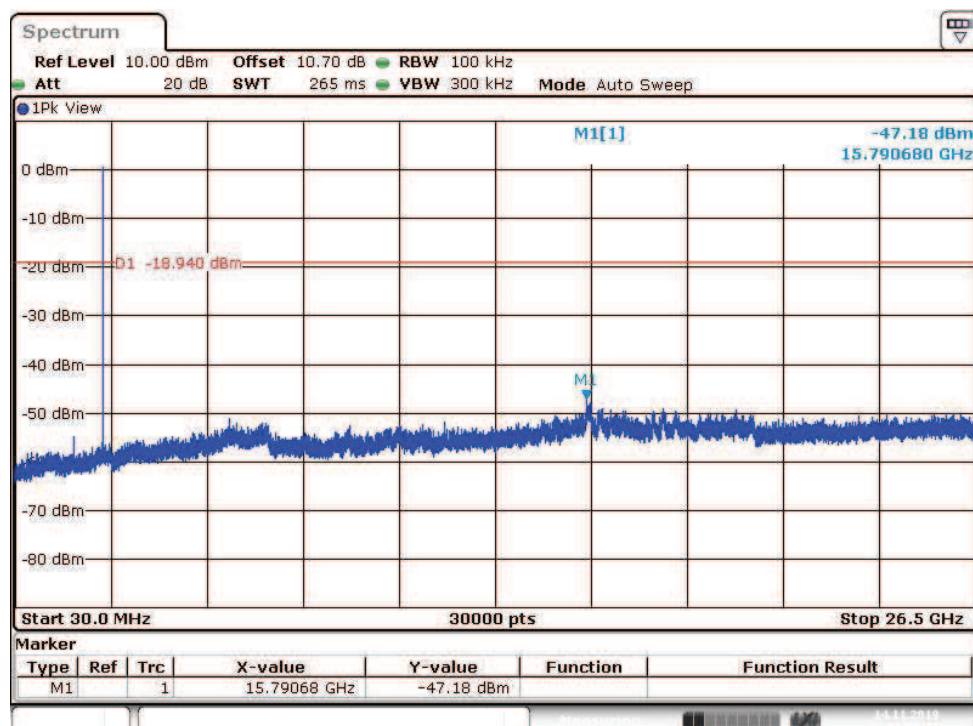
Test Plot of 100kHz Conducted Emissions, 3DH5

Low Channel



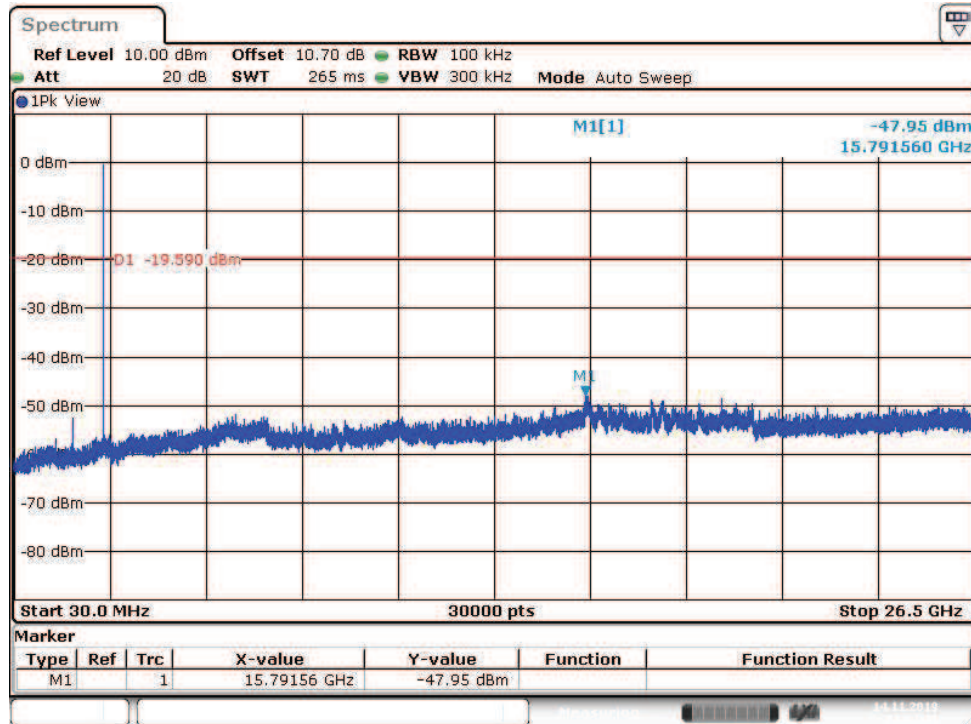
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Middle Channel



Date: 14.NOV.2019 13:56:31

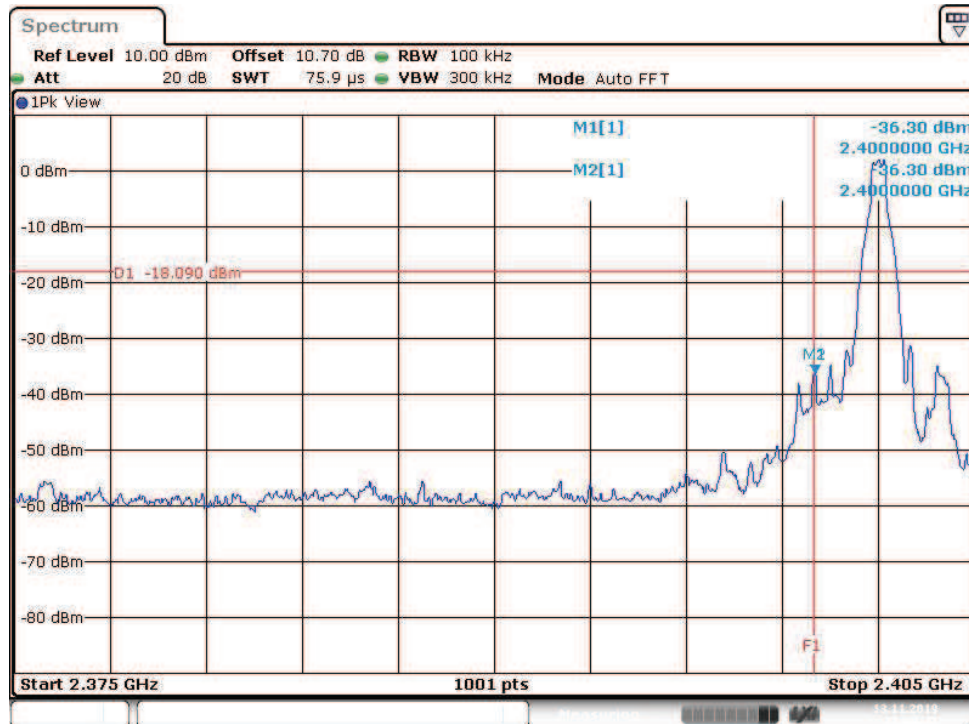
High Channel



Date: 14.NOV.2019 14:43:09

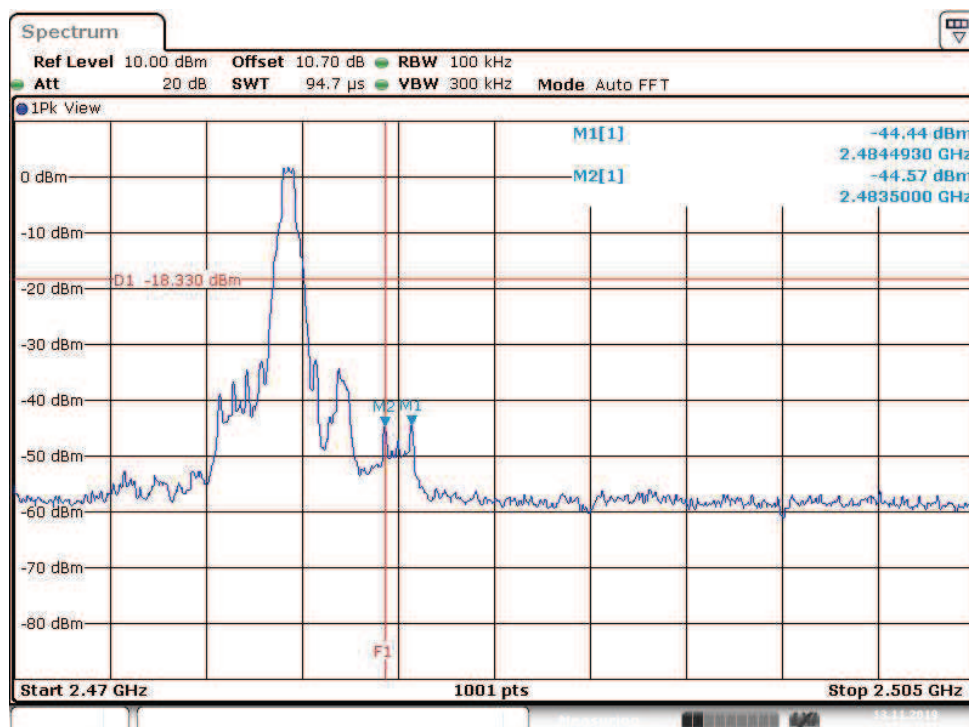
Test Plot of 100kHz Bandwidth of Frequency Band Edge, 1DH5

Low Channel



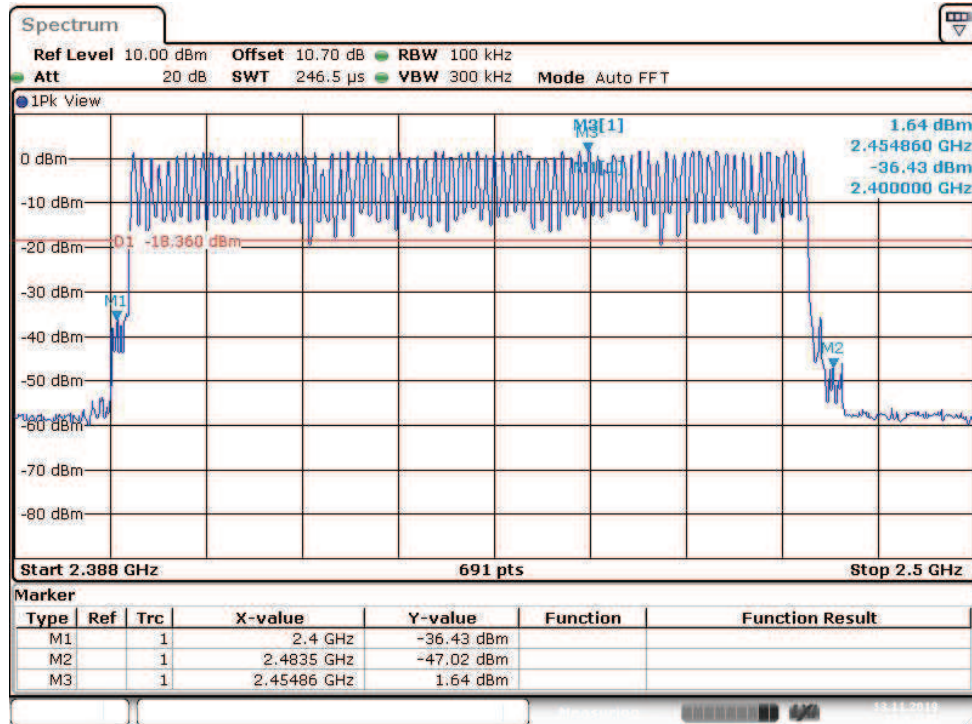
Date: 13.NOV.2019 13:48:47

High Channel



Date: 13.NOV.2019 15:44:12

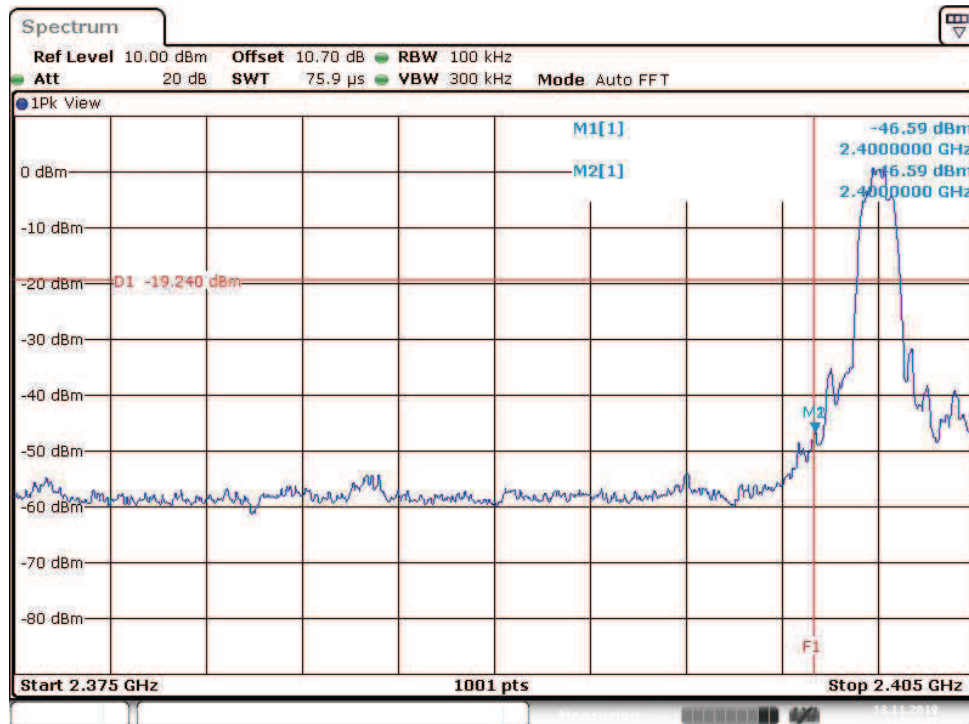
Hopping



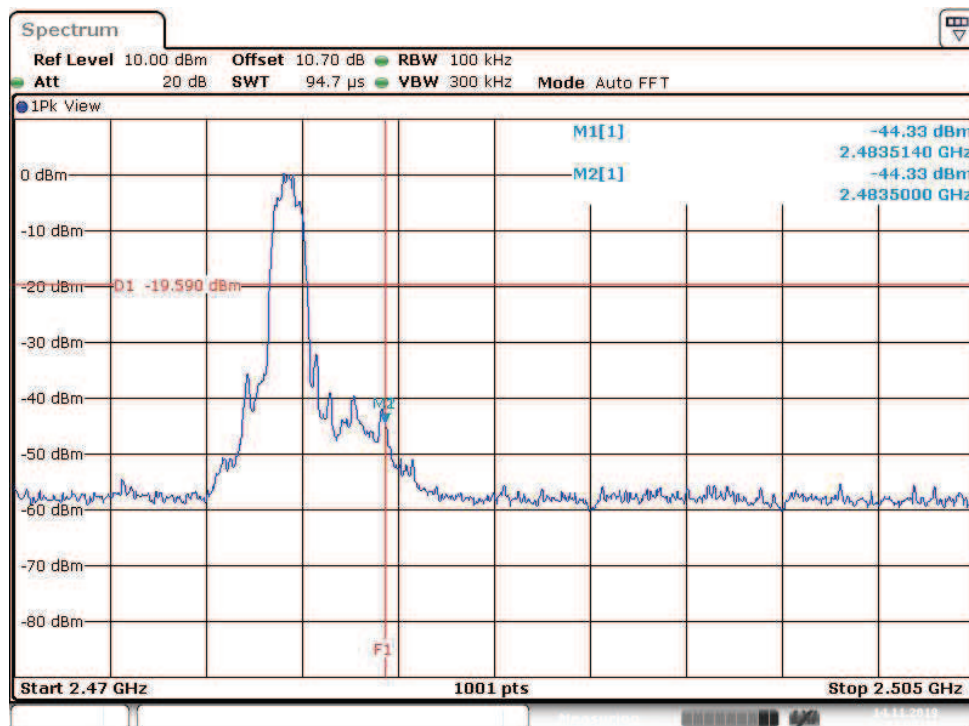
Date: 13.NOV.2019 13:12:46

Test Plot of 100kHz Bandwidth of Frequency Band Edge, 3DH5

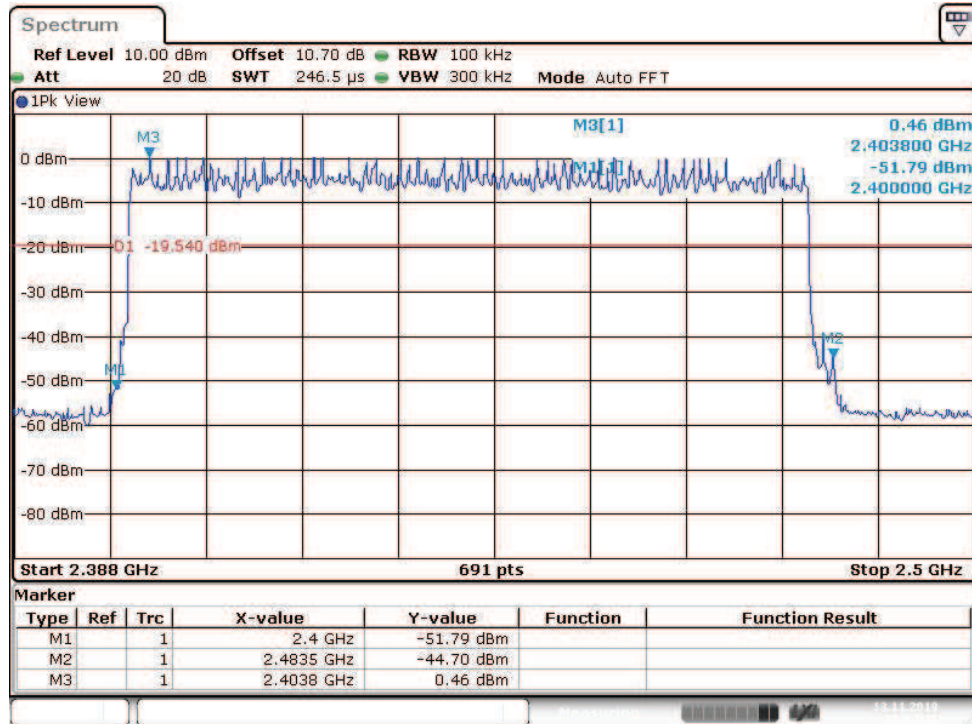
Low Channel



High Channel



Hopping



Date: 13.NOV.2019 13:17:36

5.1.5 Spurious Emission

RESULT:**Passed**

Test standard	:	LP0002(2018): 3.10.1.5
Basic standard	:	ANSI C63.10, LP0002(2018) Appendix II
Limits	:	Radiated emissions which fall in the restricted bands, as defined in LP0002(2018): 2.7 , must comply with the radiated emission limits specified in LP0002(2018): 2.8 Emission radiated outside the specified frequency bands must comply with the radiated emission limits specified in LP0002(2018): 2.8
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	A, B

For details refer to Appendix D.

The Radiated Emissions testing was performed in the X, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

Factor (dB/m)=Antenna Factor(dB/m)+Cable loss (dB)
Level(dBuV/m)=Reading(dBuV)+ Factor(dB/m)

Remark: Testing was carried out within frequency range 9kHz to the tenth harmonic. For details refer to Appendix D. The Radiated Emissions testing was performed in the X, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

5.1.6 Frequency Separation

RESULT:
Passed

Test standard : LP0002(2018): 3.10.1.6 (1) (A)
 Basic standard : ANSI C63.10:2013
 LP0002(2018) Appendix II
 Limits : $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater

Test setup

Operation mode : C
 Ambient temperature : 20-24 °C
 Relative humidity : 50-65 %

Table 13: Test result of Frequency Separation, 1DH5

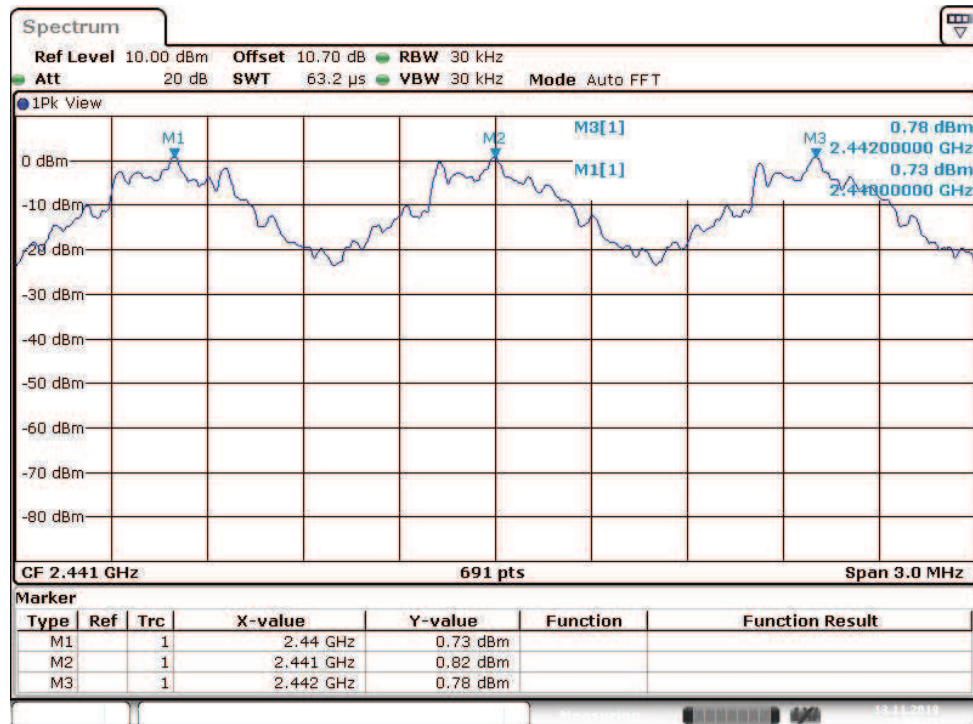
Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Record Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Record Channel adj 1	2440			
Record Channel adj 2	2442			

Table 14: Test result of Frequency Separation, 3DH5

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Record Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Record Channel adj 1	2440			
Record Channel adj 2	2442			

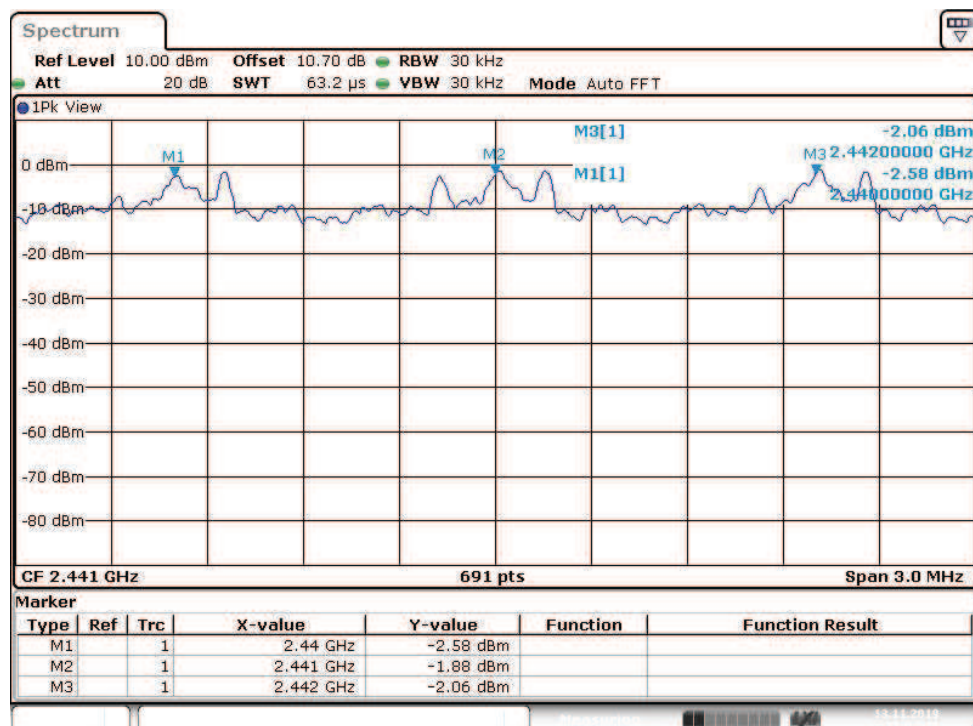
Test Plot of Frequency Separation

1DH5



Date: 13.NOV.2019 13:06:57

3DH5



Date: 13.NOV.2019 13:21:59

5.1.7 Number of hopping frequency

RESULT:
Passed

Test standard : LP0002(2018): 3.10.1.6 (1) (A)(a)
 Basic standard : ANSI C63.10:2013
 LP0002(2018) Appendix II
 Limits : ≥ 15 non-overlapping channels
 Kind of test site : Shield room

Test setup

Test Channel : Hopping On
 Test Lab. : Linkou
 Ambient temperature : 20-24°C
 Relative humidity : 50-65%
 Atmospheric pressure : 100-103 kPa

Table 15: Test result of Number of hopping frequency, 1DH5

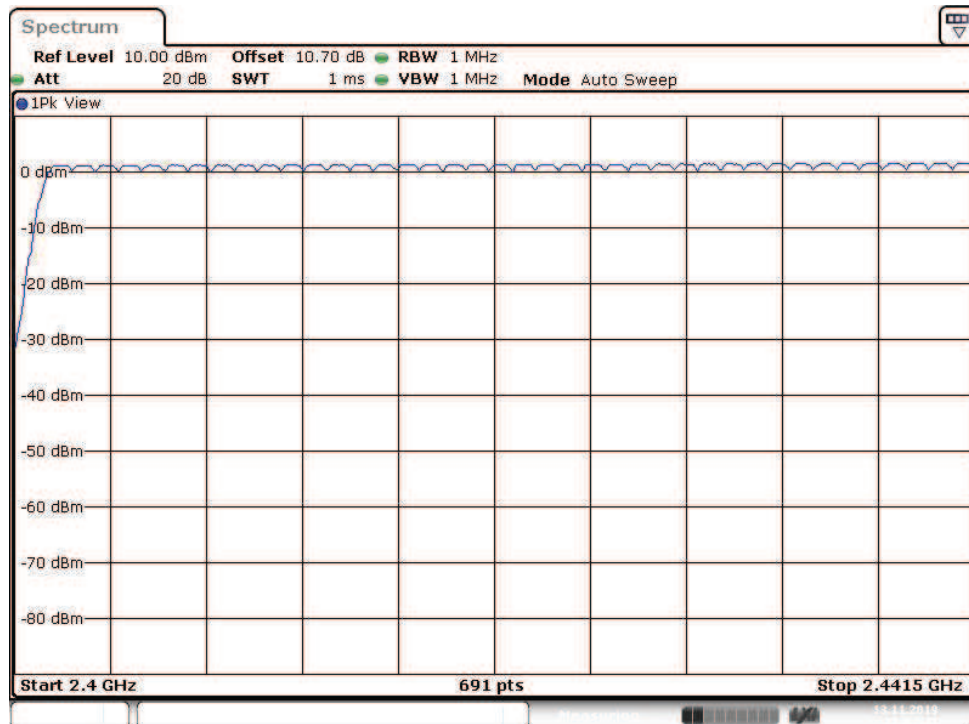
Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2402</u> to <u>2480</u> MHz	79	≥ 15	Pass

Table 16: Test result of Number of hopping frequency, 3DH5

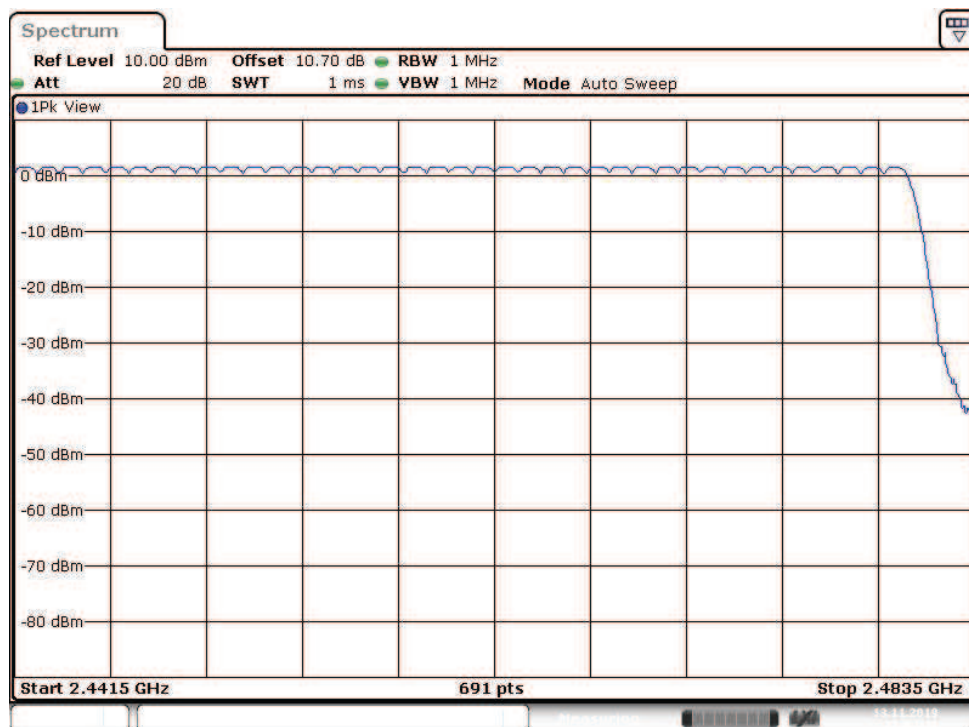
Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2402</u> to <u>2480</u> MHz	79	≥ 15	Pass

Test Plot of Number of hopping frequencies

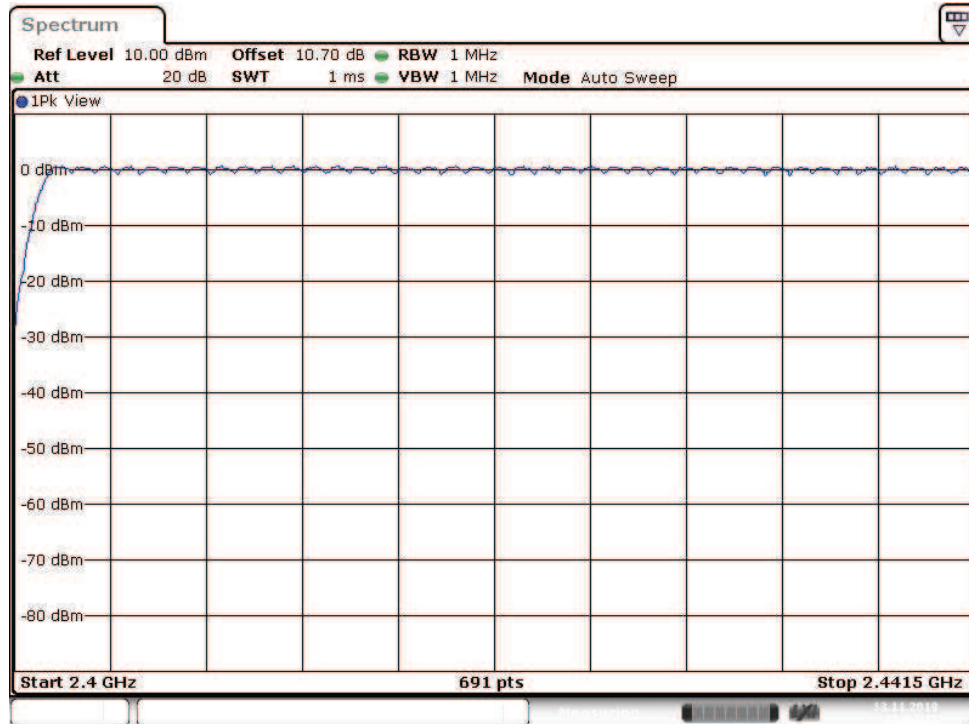
1DH5



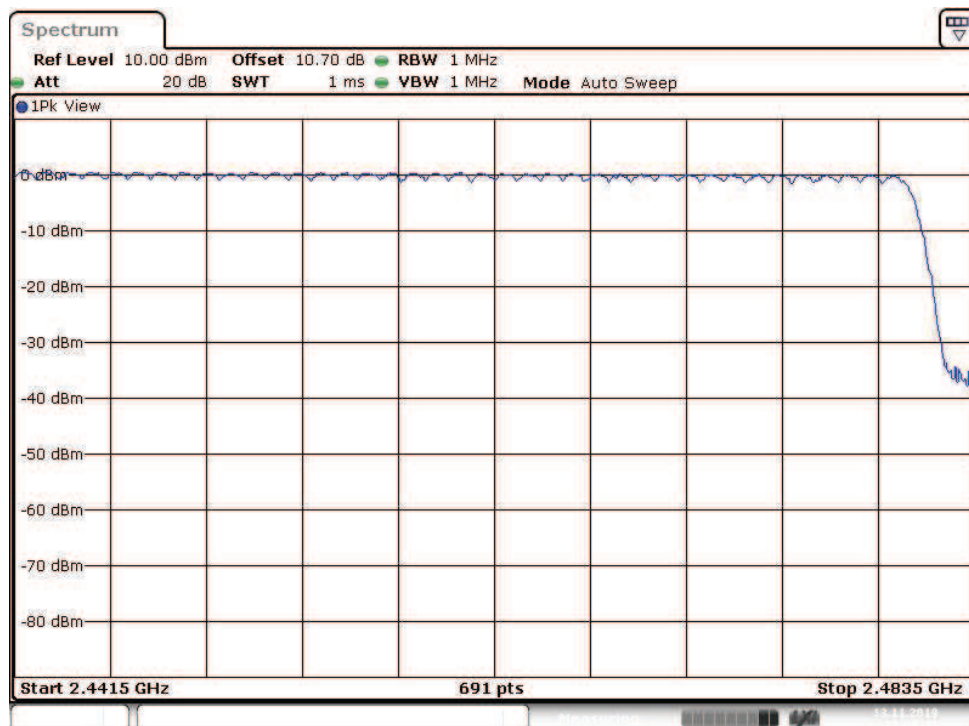
Date: 13.NOV.2019 13:01:42



Date: 13.NOV.2019 13:02:31

3DH5


Date: 13.NOV.2019 13:23:37



Date: 13.NOV.2019 13:25:33

5.1.8 Time of Occupancy

RESULT:

Passed

Test standard : LP0002(2018): 3.10.1.6 (1) (A)(a)
 Basic standard : ANSI C63.10:2013
 LP0002(2018) Appendix II
 Limits : 0.4s
 Kind of test site : Conducted room

Test setup

Test Channel : Low
 Operation Mode : A

 Ambient temperature : 20-24°C
 Relative humidity : 50-65%
 Atmospheric pressure : 100-103 kPa

Table 17: Test result of Time of Occupancy

Data Mode	Captured Burst (s)	Dwell time (s)	On+Off time (s)	Limit (s)	Result
1DH5	0.00290	0.3089	0.00375	0.4	Pass
3DH5	0.00290	0.3089	0.00375	0.4	Pass

Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

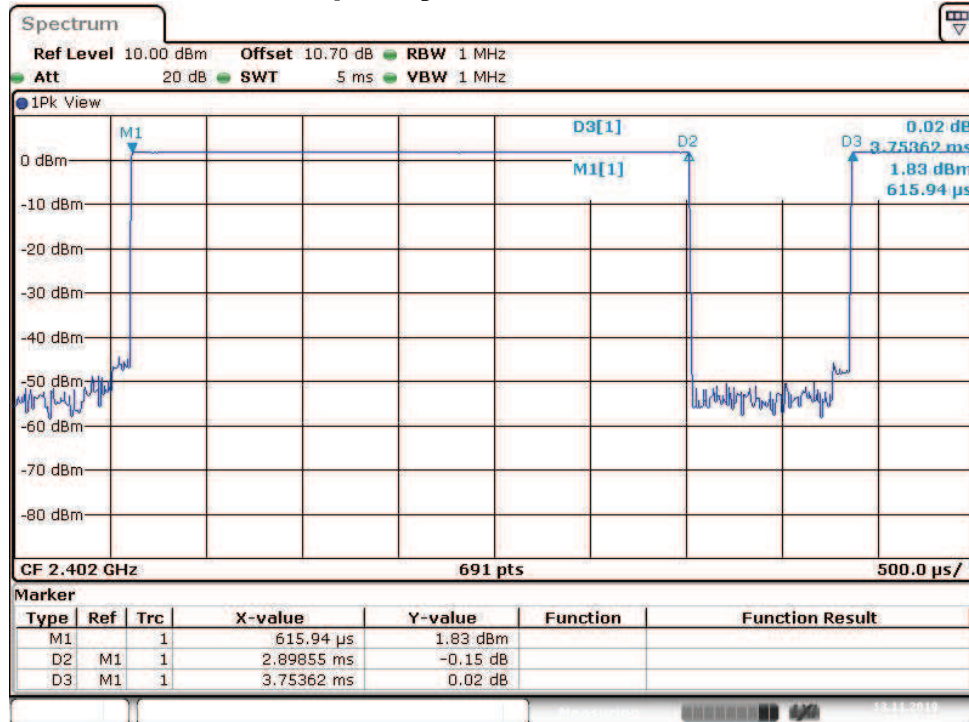
Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds.

Hopping rate = 1 / (On+Off time)

Hopping rate for 1DH5= 266 Hz

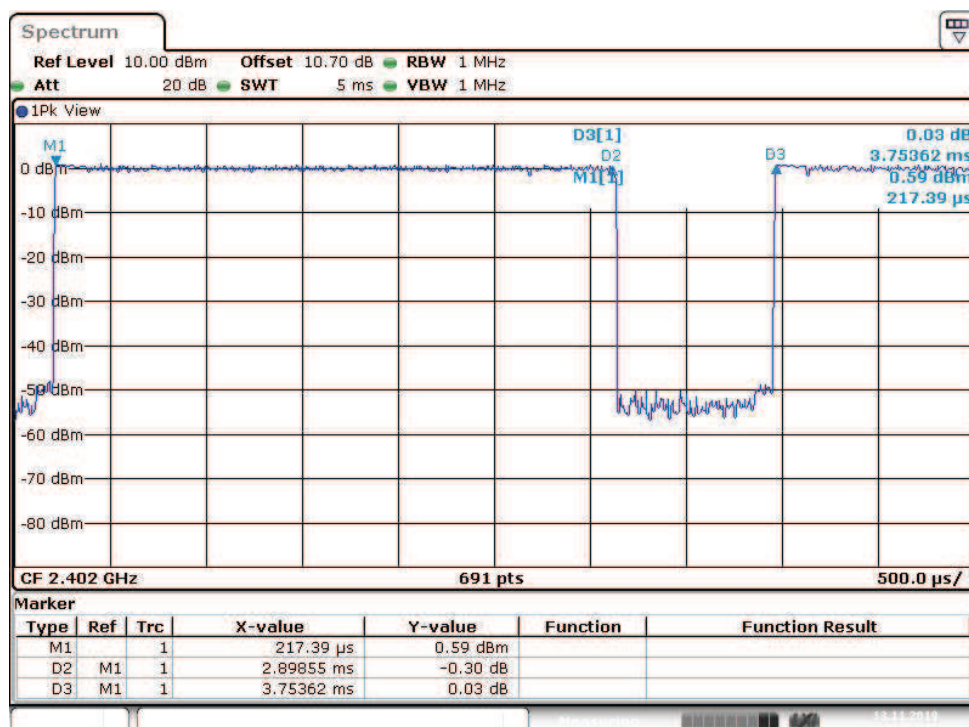
Hopping rate for 3DH5= 266 Hz

Test Plot of Time of Occupancy, 1DH5



Date: 13.NOV.2019 13:30:33

Test Plot of Time of Occupancy, 3DH5



Date: 13.NOV.2019 16:54:15

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5.1.9 Mains Conducted Emissions

RESULT:**Passed**

Test standard : LP0002: 2.3
Limits : Mains Conducted emissions as defined in
above standards
Kind of test site : Shielded Room

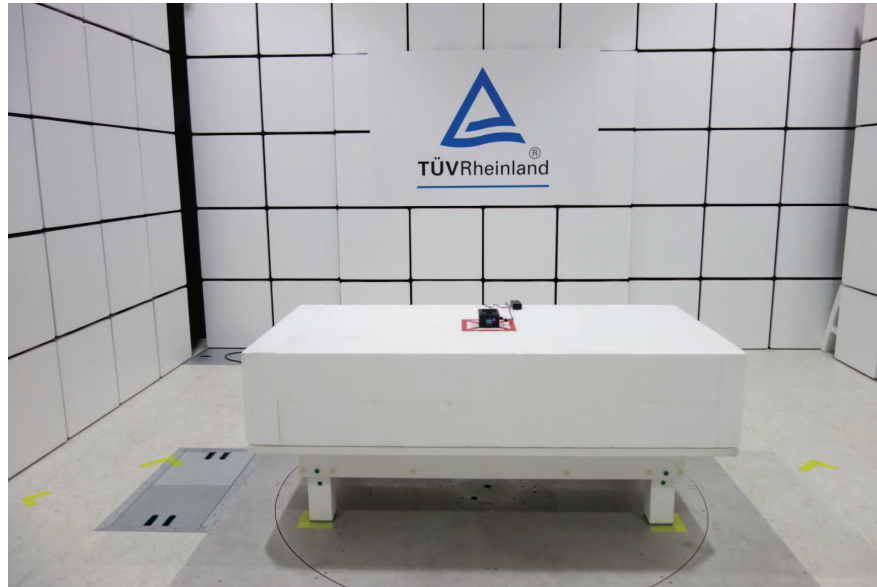
Test setup

Test Channel : Middle
Operation mode : A

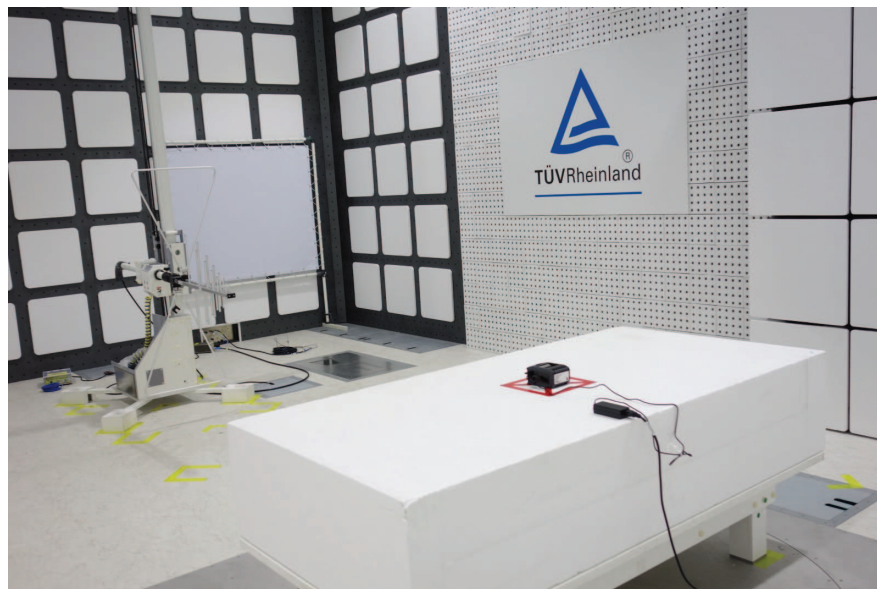
Remark: For details refer to Appendix D.

6. Photographs of the Test Set-Up

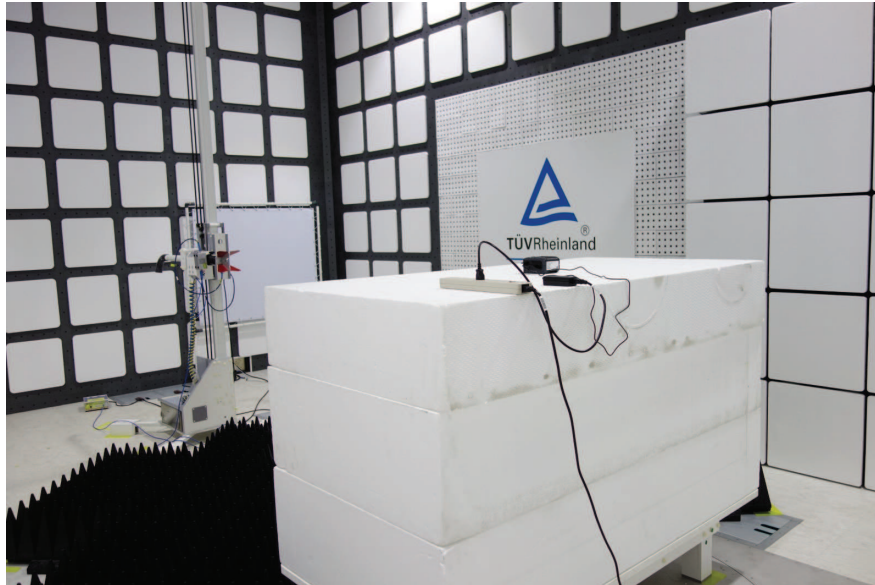
Photograph 1: Set-up for Spurious Emissions (Front View 1)



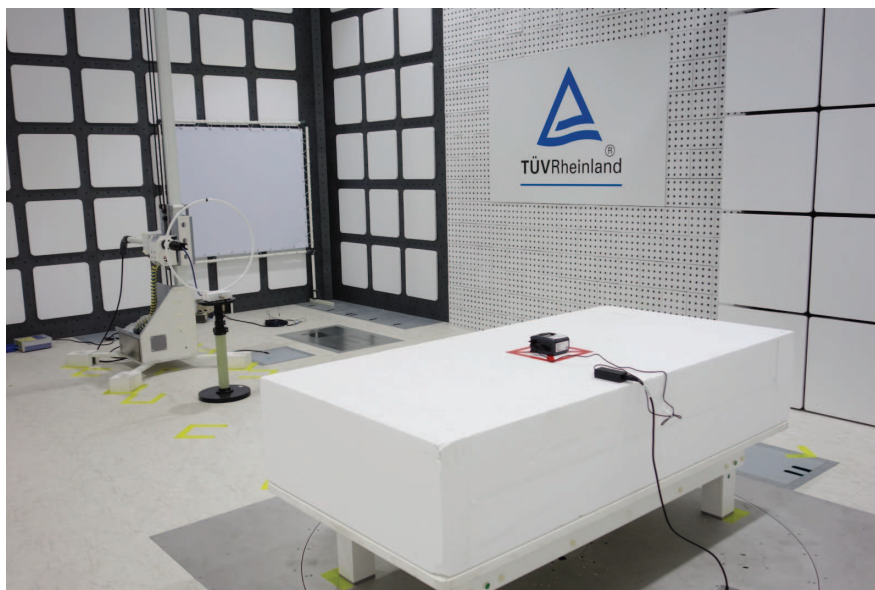
Photograph 2: Set-up for Spurious Emissions (Back View 1)



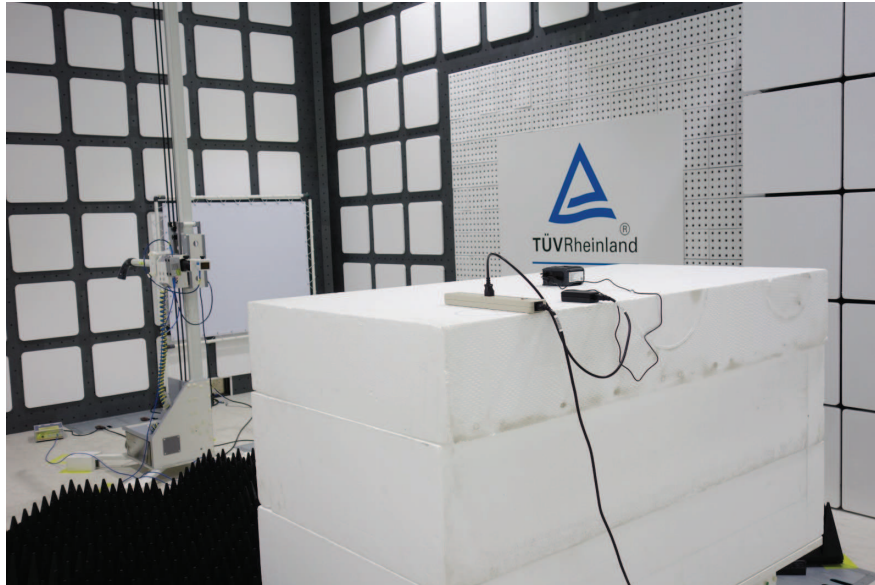
Photograph 3: Set-up for Spurious Emissions (Back View 2)



Photograph 4: Set-up for Spurious Emissions (Back View 3)



Photograph 5: Set-up for Spurious Emissions (Back View 4)



Photograph 6: Set-up for Mains Conducted testing (Back View)



Photograph 7: Set-up for Mains Conducted testing (Front View)



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