

Contact person RISE
Tomas Lennhager
Electronics
+46 10 516 54 09
tomas.lennhager@ri.se

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Ericsson AB
Anders Karlsson
BURA DURA RP QRM
Torshamnsgatan 21
164 80 Stockholm

Radio measurements on SM 6701 B261 with FCC ID: TA8AKRK10101

Product name: SM 6701 B261
Product number: KRK 101 01/1 and KRK 101 01/2

RISE Research Institutes of Sweden AB Electronics - EMC

Performed by

Examined by

Tomas Lennhager

Monika Fuller

RISE Research Institutes of Sweden AB

Postal address	Office location	Phone / Fax / E-mail
Box 857	Brinellgatan 4	+46 10 516 50 00
SE-501 15 BORÅS	SE-504 62 BORÅS	+46 33 13 55 02
Sweden		info@ri.se

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Summary

Standard Listed part of	Compliant
FCC CFR 47 part 30 Subpart C	
2.1046 RF power output	Yes
2.1049 Occupied bandwidth	Yes
2.1053 Field strength of spurious radiation	Yes

Description of the test object

Equipment:	Street Macro radio, SM 6701 B261 Product number: KRK 101 01/1 for AC and KRK 101 01/2 for DC FCC ID: TA8AKRK10101
Hardware revision state:	R1E for AC R1B for DC
Tested configuration:	3GPP NR TDD
Frequency band:	TX/ RX: 27500 – 28350 MHz
No of supported beams:	Config mode 1: 2 beams in 2 orthogonal polarizations each, 4 beams in total. Config mode 2: 1 beam in 2 orthogonal polarizations each, 2 beams in total.
Operating bandwidth:	Config mode 1: Two segments of 400 MHz Config mode 2: One segment of 400 MHz
Nominal Output power (EIRP):	53 dBm/ beam and polarization config mode 2 47 dBm/ beam and polarization config mode 1
RF configurations:	TX Diversity, SU and MU MIMO up to 2 layers 1x(2x2), Contiguous Spectrum (CS) and Non-Contiguous spectrum (NCS), Carrier Aggregation (CA) intra-band supported
Antenna beam steering:	Azimuth ± 60 deg, elevation ± 15 deg
Channel bandwidth(s)/ Sub Carrier Spacing:	50MHz and 100 MHz/ 120 kHz
Modulations:	QPSK, 16QAM and 64QAM
Emission designators:	46M4W7D and 95M9W7D
Emission designators Carrier Aggregation:	792MW7D (8x 100 MHz)
RF power Tolerance:	+1.5/ -2.0 dB

The information above is supplied by the manufacturer.

Purpose of test

The purpose of the tests is to justify a Class two Permissive change is compliant with the performance characteristics specified in applicable items of FCC CFR 47 Part 30. DC Powered version (KRK 101 01/2 and KRK 101 01/21), introduction of 50 MHz carrier bandwidth and introduction of Config mode 1 supporting up to 8 carriers.

Operation modes during measurements

The measurements were performed with the test object transmitting test models as defined in 3GPP TS 38.141-2. Test model NR FR2 TM 1.1 is used to represent QPSK, test model NR FR2 TM 3.2 to represent 16QAM, test model NR FR2 TM 3.1 to represent 64QAM modulation

The settings below were deemed representative for worst case settings, for all traffic scenarios when settings with different modulations and RF configurations was found to represent worst case settings.

MIMO mode, NR FR2 TM1.1, QPSK with the beams locked in boresight.

All measurements were performed with the test object configured for maximum transmit power.

The measurement shall be done during active part of transmission, or if the measurement is performed with constant duty cycle <98%, the result shall be adjusted for the duty cycle according to ANSI C63.26 5.2.4.3.4. The duty cycle was measured to 74% and to compensate for this 1.33 dB was added to the test results.

Measurements

The test object was powered with 120 VAC 60 Hz/ -48 VDC by an external power supply. Additional connections are documented in the setup drawings for radiated measurements.

Far field distance for power, OBW and Band edge measurements is 3.5 m, based on the EUT antenna dimensions and the highest transmitter frequency (28.35 GHz).

Far field distances for OOB emissions is based on the measurement antenna dimension and highest frequency in the measure range :

Frequency range [GHz]	Far field distance [m]	Measured distance [m]
18 – 26.5	0.73	4
26.5 – 40	0.49	4
40 – 60	0.34	3
60 – 80	0.18	1
80 – 100	0.16	1

Formula for far field distance calculation:

$$R = 2x D^2 / \lambda$$

References

Measurements were done according to relevant parts of the following standards:

CFR 47 part 30, December 2019

ANSI C63.26-2015

KDB 842590 D01 Upper Microwave Flexible Use Service V01

3GPP TS 38.141-2 V15.2.0 (2019-06)

3GPP TR 37.842 V13.2.0 (2017-03)

RISE Measurement equipment

	Calibration Due	RISE number
Anechoic chamber, Hertz	2020-11	BX50194
R&S FSW 43	2020-09	902 073
R&S ESU	2020-07	901 553
R&S ZNB 40	2020-07	BX50051
RF Cable VNA-calibration	2021-01	BX50189
RF Cable VNA-calibration	2021-01	BX50190
RF Cable	2020-04	BX50236
RF Cable	2020-09	BX50192
Bilog antenna Schaffner 6143A	2021-08	504 079
Flann STD Gain Horn Antenna 20240-20	-	BX92412
Flann STD Gain Horn Antenna 22240-20	-	BX92413
Flann STD Gain Horn Antenna 24240-20	-	BX92414
Flann STD Gain Horn Antenna 26240-20	-	BX92415
Flann STD Gain Horn Antenna 27240-20	-	BX92416
Mixer FS-Z60	2020-12	BX90566
Mixer FS-Z90	2021-01	BX90567
Mixer FS-Z110	2020-07	BX81425
Miteq, Low Noise Amplifier	2021-01	503 278
EMCO Horn Antenna 3115	2021-07	502 175
EMCO Horn Antenna 3115	2022-02	902 212
EMCO Horn Antenna 3116	2021-07	503 279
µComp Nordic, Low Noise Amplifier	2021-01	901 544
RF Cable	2021-01	BX81431
RF Cable	2020-04	BX81423
RF Cable	2020-09	503 681
RF Cable FSW-B21	2020-10	BX62069
RF Cable FSW-B21	2020-10	BX62073
Temperature and humidity meter, Testo 615	2020-06	503 498

EAB Measurement equipment

Calibrated at RISE before testing.

	Calibration Due	S/N
SWH010 HPF 30-40 GHz	2020-09	ST010619225
SSL036 LPF 26.5 GHz	2020-09	ST012717003

Uncertainties

Measurement and test instrument uncertainties are described in the quality assurance documentation "SP-QD 10885". The uncertainties are calculated with a coverage factor $k=2$ (95% level of confidence).

Compliance evaluation is based on a shared risk principle with respect to the measurement uncertainty.

Reservation

The test results in this report apply only to the particular test object as declared in the report.

Delivery of test object

The test object was delivered: DC version (KRK 101 01/2) 2019-12-09 and
AC version (KRK 101 01/1) 2020-01-27.

Manufacturer's representative

Mikael Jansson, Ericsson AB.

Test engineers

Tomas Lennhager and Karl Flysjö, RISE

Test participant(-s)

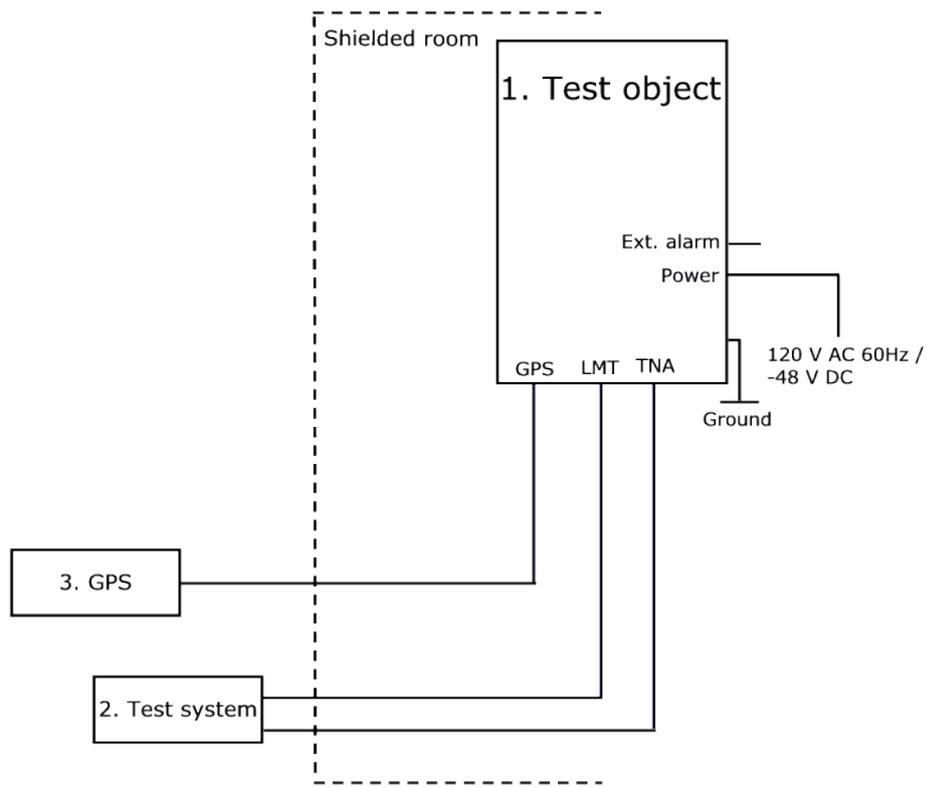
Mikael Jansson, Henry Liu and Xiang Yue. Ericsson AB.

Test frequencies used for radiated measurements

Frequency Hor/ Ver [MHz]	Symbolic name	Config mode	Comment
27525.00	BL ₅₀	2	50 MHz BW, TX bottom Lower block
27900.00	TL ₅₀	2	50 MHz BW, TX Top Lower block
27950.04	BH ₅₀	2	50 MHz BW, TX Bottom High block
28324.92	TH ₅₀	2	50 MHz BW, TX Top High block
27550.08	BL ₁₀₀	2	100 MHz BW, TX bottom Lower block
27874.92	TL ₁₀₀	2	100 MHz BW, TX Top Lower block
27975.00	BH ₁₀₀	2	100 MHz BW, TX Bottom High block
28299.96	TH ₁₀₀	2	100 MHz BW, TX Top High block
27525.00 27575.04 27874.92	BIM3 ₅₀	2	50 MHz BW, TX 3 carrier Bottom Lower block
27975.00 28275.00 28324.92	TIM3 ₅₀	2	50 MHz BW, TX 3 carrier Top High block
27525.00 27575.04 27825.00 27874.92 27975.00 28024.92 28275.00 28324.92	BT8 ₅₀	1	50 MHz BW, TX 8 carrier Bottom and Top block
27750.00 27799.92 27849.96 27900.00 27950.04 27999.96 28050.00 28099.92	M8 ₅₀	1	50 MHz BW, TX 8 carrier Middle
27549.96 27600.00 27649.92 27699.96 27750.00 27799.92 27849.96 27900.00	TL8 ₅₀	1	50 MHz BW, TX 8 carrier Top Low block
27950.04 27999.96 28050.00 28099.92 28149.96 28200.00 28249.92 28299.96	BH8 ₅₀	1	50 MHz BW, TX 8 carrier Bottom High block

Frequency Hor/ Ver [MHz]	Symbolic name	Config mode	Comment
27550.08 27650.04 27750.00 27849.96 27999.96 28099.92 28200.00 28299.96	BT8 ₁₀₀	1	100 MHz BW, TX 8 carrier Bottom and Top block
27575.04 27675.00 27774.96 27875.04 27975.00 28074.96 28175.04 28275.00	M8 ₁₀₀	1	100 MHz BW, TX 8 carrier Middle

Test setup: radiated measurements



Test object:

1.	AC: SM 6701, KRK 101 01/1, rev. R1E, s/n: E23B096261 With Radio Software: CXP2030045/1, rev. R4D83, RBS Software: CXP9024418/15, rev. R1A188 DC: SM 6701, KRK 101 01/2, rev. R1B, s/n: E23A906309 With Radio Software: CXP2030045/1, rev. R3A303, RBS Software: CXP9024418/6, rev. R83A172 FCC ID: TA8AKRK10101
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Functional test equipment:

2.	Computer, Apple Mac mini, BAMS - 100196432
3.	GPS Active Antenna, KRE 101 2082/1 GPS 02 01, NCD 901 41/1, rev. R1D, s/n: A401804384

Interfaces:

Power input configuration AC (KRK 101 01/1): 120 VAC 60Hz	Power
Power input configuration DC (KRK 101 01/2): -48 VDC	
LMT, shielded multi-wire	Signal
TN A, shielded multi-wire	Signal
GPS, shielded multi-wire	Signal
EXT Alarm, shielded multi-wire	Signal
TN B, Optical Interface Link, single mode opto fibre	Signal
TN C, Optical Interface Link, single mode opto fibre	Signal
Ground wire	Ground

RF power output measurements according to CFR 47 §30.202

Date	Temperature	Humidity
2020-02-18	23 °C ± 3 °C	26 % ± 5 %
2020-02-19	23 °C ± 3 °C	18 % ± 5 %
2020-02-20	23 °C ± 3 °C	18 % ± 5 %

Test set-up and procedure

The test object was located in an anechoic chamber. The measuring antenna was aligned to the centre of the PAAM. A turn table was used to find the highest output power. A signal analyzer with the channel power function activated was used to measure the output power with the RMS detector activated. The bandwidth setting of the channel power function was set to 100 MHz.

A substitution measurement defined in 3GPP TR 37.842 chapter 10.3.1.1.2 was used to get the actual correction factor (Transducer factor A-D in the figure 1 below) with a Network analyzer (ZNB 40).

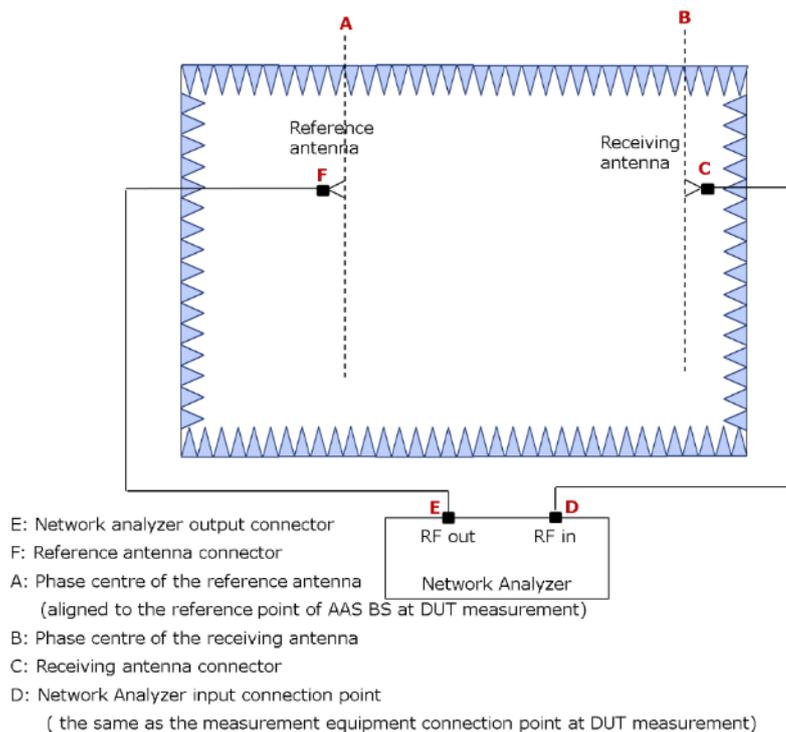


Figure 1: Indoor Anechoic Chamber calibration system setup for EIRP

Stage 1 - Calibration:

- 1) Connect the reference antenna and the receiving antenna to the measurement RF out port and RF in port of the network analyzer, respectively, as shown in figure 1.
- 2) Install the reference antenna with its *beam peak direction* and the height of its phase centre aligned with the receiving antenna.
- 3) Set the centre frequency of the network analyzer to the carrier centre frequency of the tested signal for EIRP measurement of the EUT and measure $LF_{EIRP, E \rightarrow D}$, which is equivalent to $20 \log |S_{21}|$ (dB) obtained by the network analyzer:
 $LF_{EIRP, E \rightarrow D}$: Pathloss between E and D in figure 1.

- 4) Measure the cable loss, $LF_{EIRP, E \rightarrow F}$ between the reference antenna connector and the network analyzer connector:
 $LF_{EIRP, E \rightarrow F}$: Cable loss between E and F in figure 1.
- 5) Calculate the calibration value between A and D with the following formula:
 $L_{EIRP_cal, A \rightarrow D} = LF_{EIRP, E \rightarrow D} + G_{REF_ANT_EIRP, A \rightarrow F} - LF_{EIRP, E \rightarrow F}$.
 $L_{EIRP_cal, A \rightarrow D}$: Calibration value between A and D in figure 1. Was implemented in the spectrum analyzer as a transducer.
 $G_{REF_ANT_EIRP, A \rightarrow F}$: Antenna gain of the reference antenna.

Stage 2 - Measurement:

- 6) Uninstall the reference antenna and install the EUT with the manufacturer declared coordinate system reference point in the same place as the phase centre of the reference antenna. The manufacturer declared coordinate system orientation of the EUT is set to be aligned with the testing system.
- 7) Measure the mean power, $P_{R_EUT_EIRP, D}$, D in figure 1.
- 8) Calculate the EIRP with the following formula:

$$EIRP = P_{R_EUT_EIRP, D} + L_{EIRP_cal, A \rightarrow D}$$

Test Setup, measuring distance 4m:



Measurement equipment	RISE number
Anechoic chamber, Hertz	BX50194
R&S FSW 43	902 073
R&S ZNB 40	BX50051
EMCO Horn Antenna 3116	503 279
FLANN Std gain 22240-20	BX92413
RF Cable	BX81423
Testo 615, temperature and humidity meter	503 498

Measurement uncertainty: 3.3 dB

Results

Single carrier Config mode 2

Beam index 0 Boresight, Carrier Bandwidth 50 MHz

Nominal rated output power (EIRP) per Beam: 53 dBm/ Polarization.

		Output power per 100 MHz, EIRP [RMS dBm] Vertical/ Horizontal
Modulation	Symbolic name	PAAM 0
QPSK	BL ₅₀	53.33/ 53.90
QPSK	TL ₅₀	53.62/ 53.84
QPSK	BH ₅₀	53.75/ 54.11
QPSK	TH ₅₀	52.53/ 53.10

Beam index 0 Boresight, Carrier Bandwidth 100 MHz

Nominal rated output power (EIRP) per Beam: 53 dBm/ Polarization.

		Output power per 100 MHz, EIRP [RMS dBm] Vertical/ Horizontal
Modulation	Symbolic name	PAAM 0
QPSK	BL ₁₀₀	53.83/ 53.58
QPSK	TL ₁₀₀	53.46/ 53.54
QPSK	BH ₁₀₀	53.50/ 53.73
QPSK	TH ₁₀₀	52.42/ 53.10

8-Carrier Config mode 1

Beam index 0 Boresight, Carrier Bandwidth 50 MHz

Nominal rated output power (EIRP) per Beam: 47.0 dBm/ Polarization.

		Output power per 50 MHz, EIRP [RMS dBm] Vertical/ Horizontal									
		Beam 1					Beam 2				
Modulation	Symbolic name	A	B	C	D	Total Power Beam 1	E	F	G	H	Total power Beam 2
QPSK	BT ₈₅₀	40.97/ 41.42	41.47/ 42.03	42.47/ 42.04	42.18/ 42.61	47.83/ 48.07	41.94/ 41.45	42.46/ 41.72	41.61/ 41.88	41.94/ 41.80	48.02/ 47.74
QPSK	M ₈₅₀	41.91/ 42.03	42.04/ 42.01	41.42/ 41.61	41.71/ 41.60	47.80/ 47.84	42.09/ 42.42	41.97/ 42.31	42.35/ 41.75	42.32/ 41.88	48.21/ 48.12

Beam index 0 Boresight, Carrier Bandwidth 100 MHz

Nominal rated output power (EIRP) per Beam: 47.0 dBm/ Polarization.

		Output power per 100 MHz, EIRP [RMS dBm] Vertical/ Horizontal									
		Beam 1					Beam 2				
Modulation	Symbolic name	A	B	C	D	Total Power Beam 1	E	F	G	H	Total power Beam 2
QPSK	BT ₈₁₀₀	41.34/ 41.76	41.79/ 42.16	41.77/ 41.80	42.24/ 42.60	47.82/ 48.11	42.18/ 41.63	41.80/ 41.95	41.86/ 41.25	41.75/ 41.98	47.92/ 47.73
QPSK	M ₈₁₀₀	41.09/ 41.69	41.91/ 41.86	41.67/ 41.67	42.36/ 42.40	47.80/ 47.94	41.90/ 41.79	41.99/ 41.97	41.78/ 41.42	41.61/ 42.12	47.84/ 47.85

Limits

CFR47 §30.202 Power limits.

- (a) For fixed and base stations operating in connection with mobile systems, the average power of the sum of all antenna elements is limited to an equivalent isotopically radiated power (EIRP) density of +75dBm/100 MHz. For channel bandwidths less than 100 MHz the EIRP must be reduced proportionally and linearly based on the bandwidth relative to 100 MHz.

Complies?	Yes
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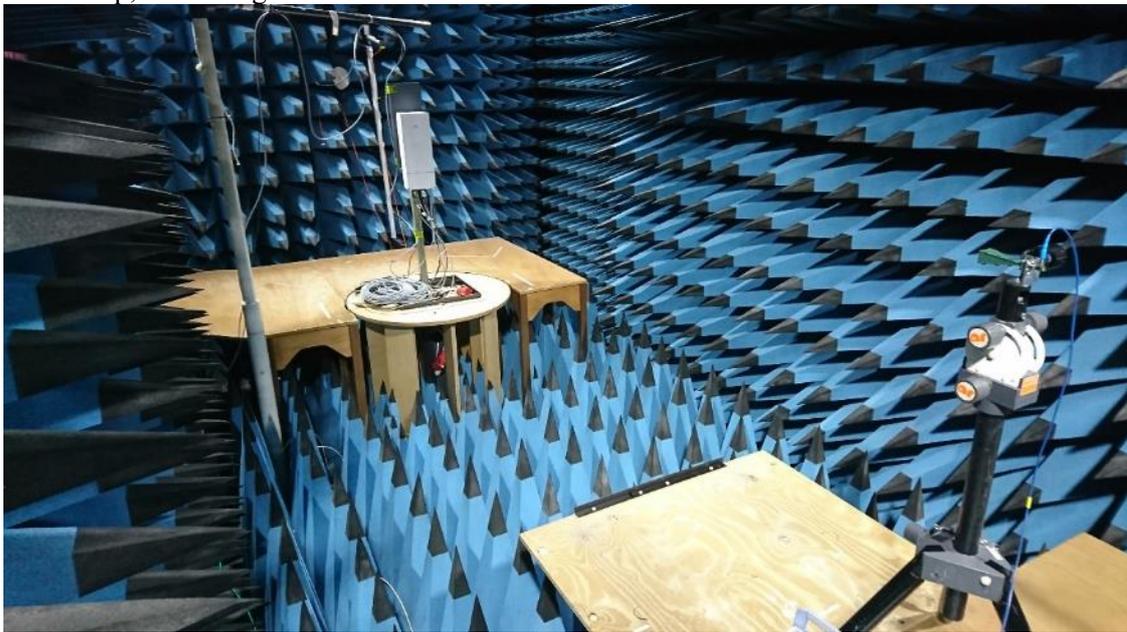
Occupied bandwidth measurements according to CFR47 §2.1049

Date 2020-02-21	Temperature 22 °C ± 3 °C	Humidity 19 % ± 5 %
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Test set-up and procedure

The test object was located in a anechoic chamber. The measuring antenna was aligned to the centre of the of the PAAM. A turn table was used to find the highest output power. A signal analyzer with Peak detector and max hold was used to measure the OBW.

Test Setup, measuring distance 4m:



Measurement equipment	RISE number
Anechoic chamber, Hertz	BX50194
R&S FSW 43	902 073
R&S ZNB 40	BX50051
EMCO Horn Antenna 3116	503 279
FLANN Std gain 22240-20	BX92413
RF Cable	BX81423
Testo 615, temperature and humidity meter	503 498

Measurement uncertainty: 3.3 dB

Results

Single carrier, Config mode 2, Bandwidth: 50MHz Modulation: QPSK

Diagram	Symbolic name	Polarization	Occupied BW (99%) [MHz]
1	BL ₅₀	Hor	45.929
2	BL ₅₀	Ver	45.933
3	TL ₅₀	Hor	46.367
4	TL ₅₀	Ver	46.258
5	BH ₅₀	Hor	45.953
6	BH ₅₀	Ver	45.933
7	TH ₅₀	Hor	46.308
8	TH ₅₀	Ver	46.192

Carrier Aggregation, Config mode 1, Bandwidth: 8x 100MHz, Modulation: QPSK

Diagram	Symbolic name	Polarization	Occupied BW (99%) [MHz]
9	M8 ₁₀₀	Hor	792.312
10	M8 ₁₀₀	Ver	789.773

Diagram 1:

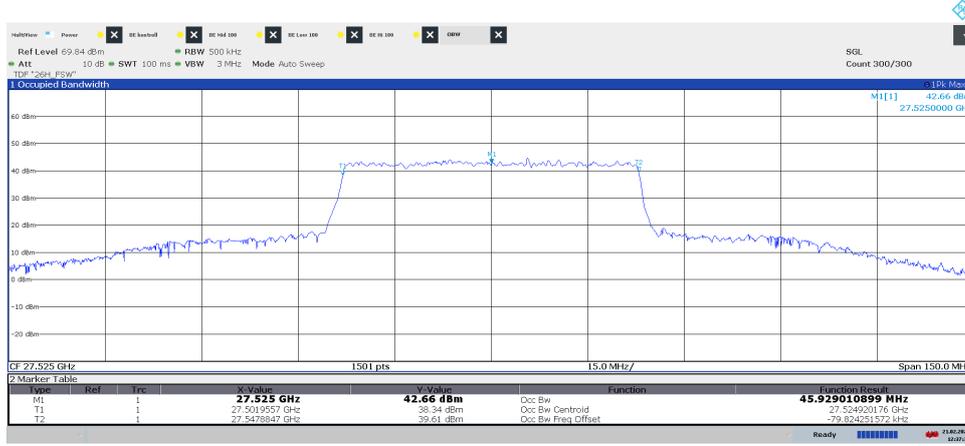


Diagram 2:

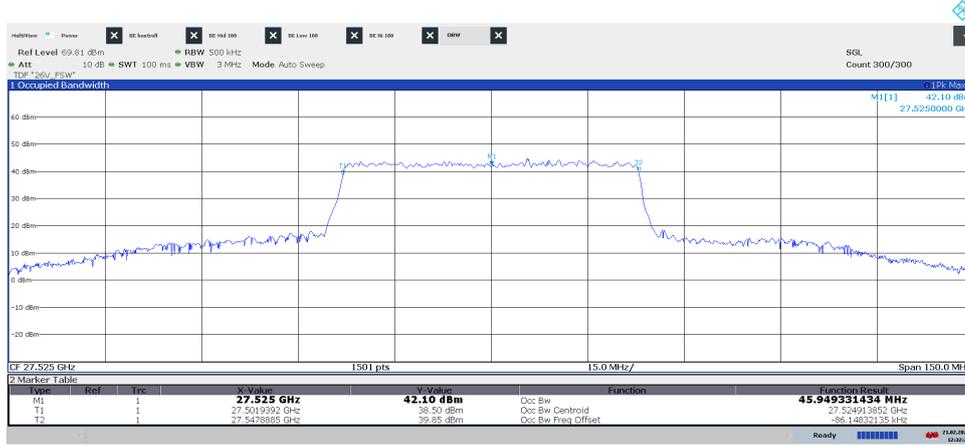
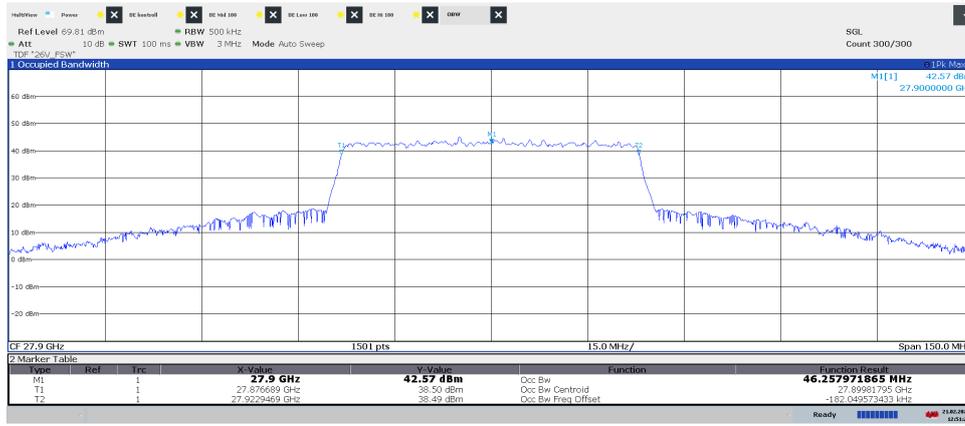


Diagram 3:

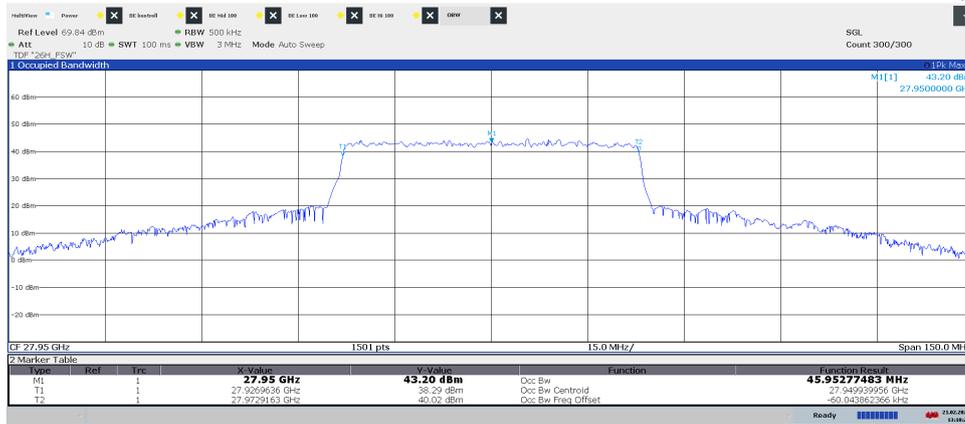


Diagram 4:



12:51:20 21.02.2020

Diagram 5:



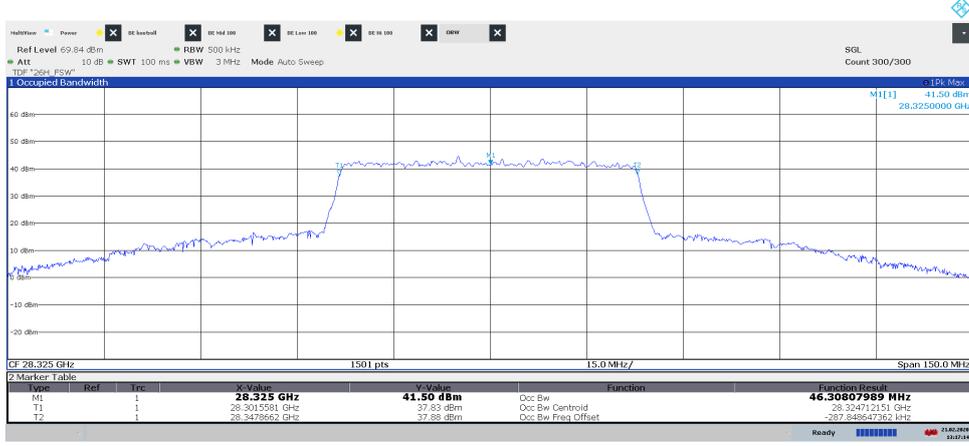
13:10:27 21.02.2020

Diagram 6:



13:06:20 21.02.2020

Diagram 7:



13:17:14 21.02.2020

Diagram 8:



13:23:15 21.02.2020

Diagram 9:



08:56:56 21.02.2020

Diagram 10:



09:00:31 21.02.2020

Field strength of spurious radiation measurements according to CFR 47 §30.203

Date	Temperature	Humidity
2019-12-10	23 °C ± 3 °C	14 % ± 5 %
2020-02-20	23 °C ± 3 °C	18 % ± 5 %
2020-02-21	22 °C ± 3 °C	19 % ± 5 %
2020-02-22	22 °C ± 3 °C	23 % ± 5 %

The measurements were performed with both horizontal and vertical polarization of the antenna. The measurement was performed with a RBW of 1 MHz. The antenna distance and test object height in the different frequency ranges is described below.

In the test range from 40 – 100 GHz

A propagation loss in free space was calculated. The used formula was

$$\gamma = 20 \log \left(\frac{4\pi D}{\lambda} \right), \gamma \text{ is the propagation loss and } D \text{ is the antenna distance.}$$

For 40 – 60 GHz D was 3.0 m and for 60 – 100 GHz D was 1.0 m.

In the test range from 30MHz – 40 GHz a substitution measurement defined in 3GPP TR 37.842 chapter 10.3.1.1.2 was used to get the actual correction factor (Transducer factor A-D in the figure 1 below) with a Network analyzer (ZNB 40).

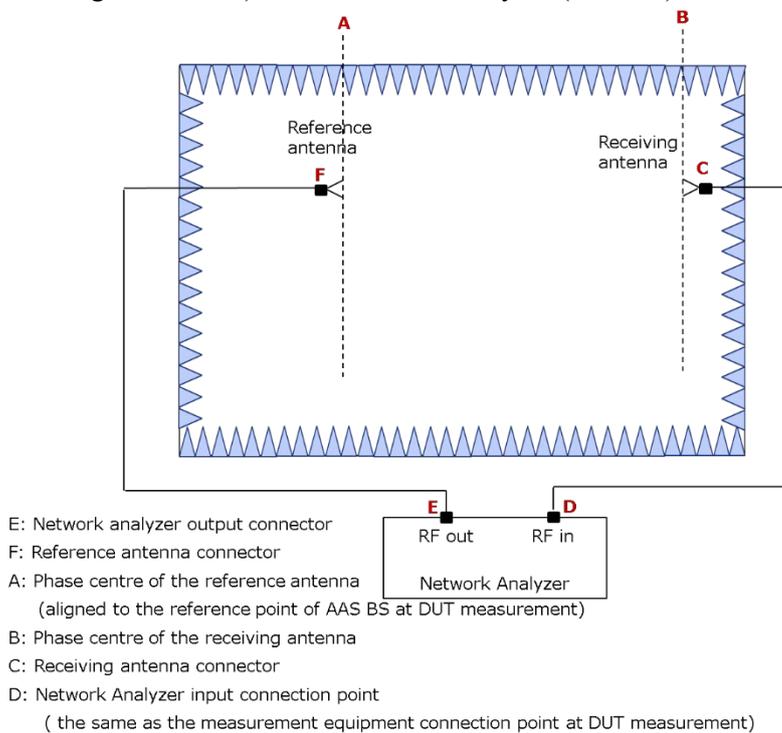


Figure 1: Indoor Anechoic Chamber calibration system setup for EIRP

Stage 1 - Calibration:

- 1) Connect the reference antenna and the receiving antenna to the measurement RF out port and RF in port of the network analyzer, respectively, as shown in figure 1.
- 2) Install the reference antenna with its *beam peak direction* and the height of its phase centre aligned with the receiving antenna.

- 3) Set the centre frequency of the network analyzer to the carrier centre frequency of the tested signal for EIRP measurement of the EUT and measure $LF_{EIRP, E \rightarrow D}$, which is equivalent to $20\log|S_{21}|$ (dB) obtained by the network analyzer:
 $LF_{EIRP, E \rightarrow D}$: Pathloss between E and D in figure 1.
- 4) Measure the cable loss, $LF_{EIRP, E \rightarrow F}$ between the reference antenna connector and the network analyzer connector:
 $LF_{EIRP, E \rightarrow F}$: Cable loss between E and F in figure 1.
- 5) Calculate the calibration value between A and D with the following formula:
 $L_{EIRP_cal, A \rightarrow D} = LF_{EIRP, E \rightarrow D} + G_{REF_ANT_EIRP, A \rightarrow F} - LF_{EIRP, E \rightarrow F}$.
 $L_{EIRP_cal, A \rightarrow D}$: Calibration value between A and D in figure 1. Was implemented in the spectrum analyzer as a transducer.
 $G_{REF_ANT_EIRP, A \rightarrow F}$: Antenna gain of the reference antenna.

Stage 2 - Measurement:

- 6) Uninstall the reference antenna and install the EUT with the manufacturer declared coordinate system reference point in the same place as the phase centre of the reference antenna. The manufacturer declared coordinate system orientation of the EUT is set to be aligned with the testing system.
- 7) Measure the mean power, $P_{R_EUT_EIRP, D}$, D in figure 1.
- 8) Calculate the EIRP with the following formula:

$$EIRP = P_{R_EUT_EIRP, D} + L_{EIRP_cal, A \rightarrow D}$$

The measurement procedure was as the following:

1. An EIRP pre-scan with the measurement antenna in horizontal and vertical polarization is performed with RMS detector and Max Hold on the spectrum analyzer. The turn table was slowly rotating from 0-360 degrees.
2. EIRP spurious radiation on frequencies closer than 10 dB to the TRP limit in the pre-scan a manual search for maximum response was done.
3. If the recorded EIRP value was above the TRP limit, a TRP measurement was done according to KDB 842590 D01 chapter 4.4. Overview of the methods.
 - a. Two Cut method according to KDB 842590 D01 chapter 4.4.2.2
 - i. EUT set in vertical orientation
 - ii. EIRP measurement samples with horizontal and vertical polarization of the measurement antenna. Angular step size based on frequency and dimension of the EUT
 - iii. EUT set in horizontal orientation
 - iv. EIRP measurement samples with horizontal and vertical polarization of the measurement antenna. Angular step size based on frequency and dimension of the EUT.
 - v. $TRP = EIRP$ measurement samples averaged $+\Delta TRP$.
(ΔTRP = Margin factor based on grid selection).

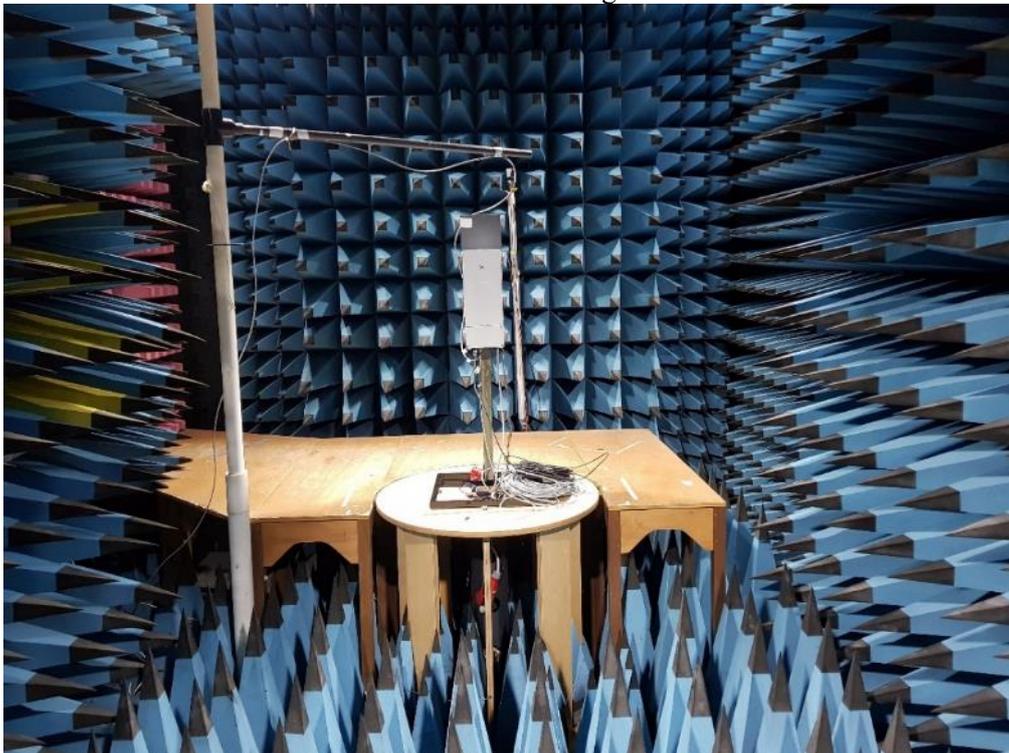
- b. Two Cut method when pattern multiplication is applicable and used according to KDB 842590 D01 chapter 4.4.2.3
 - i. EUT set in vertical orientation
 - ii. EIRP measurement samples with horizontal and vertical polarization of the measurement antenna. Angular step size based on frequency and dimension of the EUT
 - iii. EUT set in horizontal orientation
 - iv. EIRP measurement samples with horizontal and vertical polarization of the measurement antenna. Angular step size based on frequency and dimension of the EUT.
 - v. TRP is calculated using the formula in Appendix E of KDB 842590 D01
- c. EIRP to Conducted Power Conversion in Band Edge Using Antenna Gain according to KDB 842590 D01 chapter 4.4.2.5
 - i. Convert each radiated measurement to conducted power/BW using the equations:
Conducted Power level (dBm) at any frequency/BW = Measured EIRP level (dBm)/BW – EUT antenna Gain (dBi)
 - ii. Sum the radiated power Horizontal and Vertical polarisations for total conducted power level/BW.
 - iii. Evaluate the pass/fail decision by comparing total conducted power level/BW against the applicable TRP limit.

The test set-up during the spurious radiation measurements is shown in the pictures below:

30 MHz – 1 GHz vertical orientation: the measuring distance was 3m



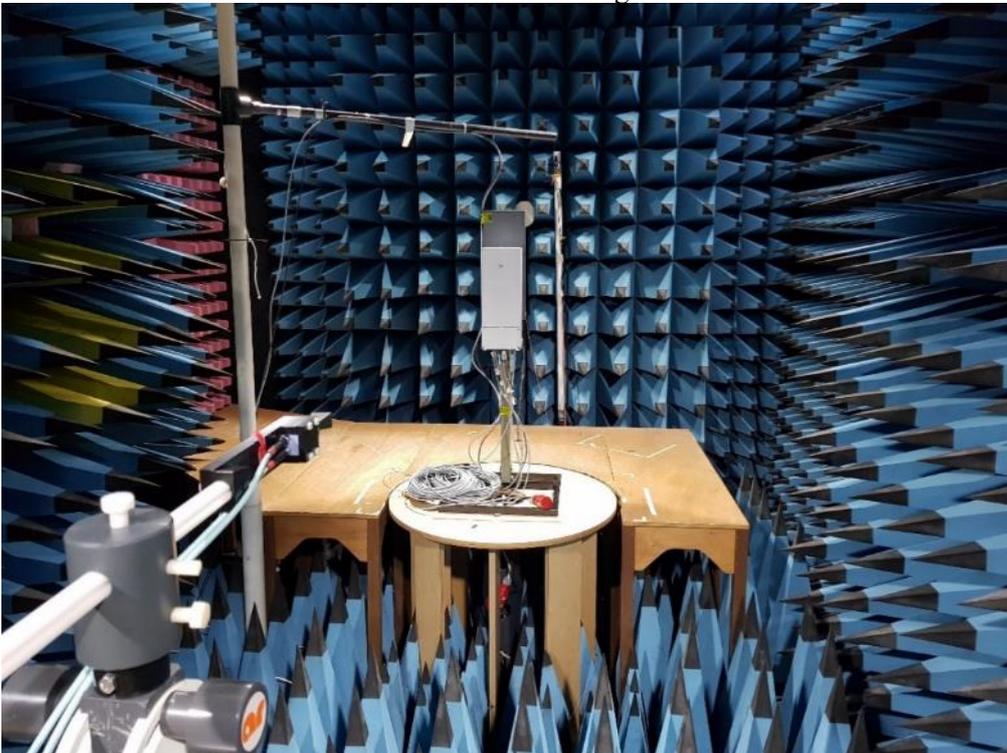
1 GHz – 40 GHz vertical orientation: the measuring distance was 4m



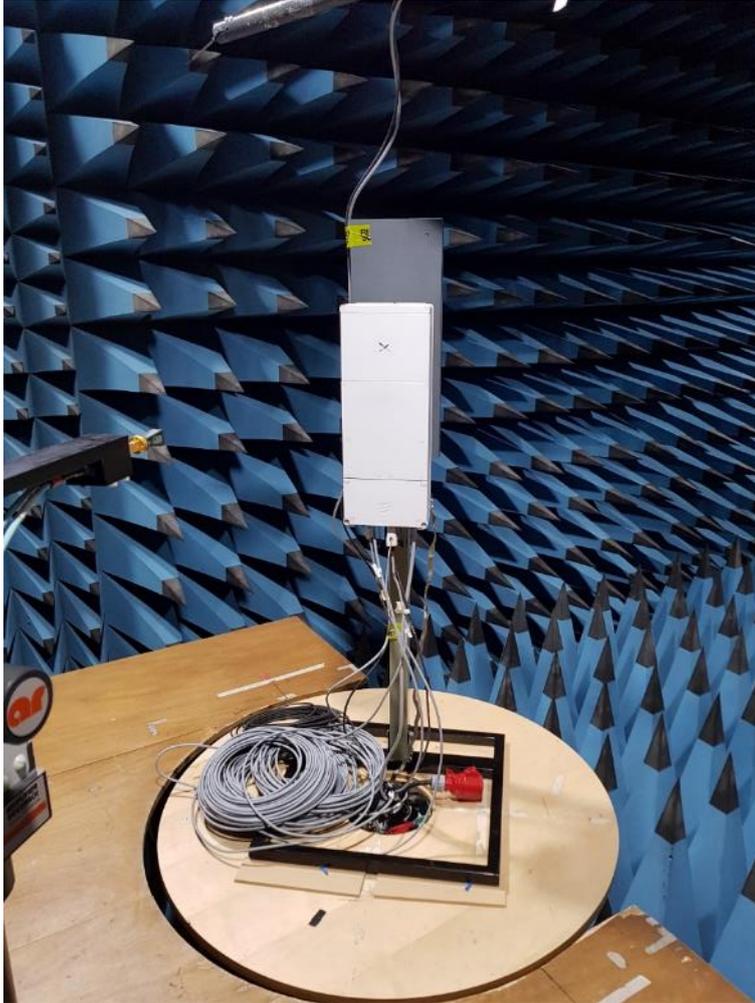
1 GHz – 40 GHz horizontal orientation: the measuring distance was 4m



40 GHz – 60 GHz vertical orientation: the measuring distance was 3m



60 – 100 GHz the measuring distance was 1.0m:



Rise Measurement equipment

Measurement equipment	RISE number
Anechoic chamber, Hertz	BX50194
R&S FSW 43	902 073
R&S ESU 26	901 553
R&S ZNB 40	BX50051
EMCO Horn Antenna 3116	503 279
Bilog antenna Schaffner 6143	504 079
Flann STD Gain Horn Antenna 20240-20	BX92412
Flann STD Gain Horn Antenna 22240-20	BX92413
Flann STD Gain Horn Antenna 24240-20	BX92414
Flann STD Gain Horn Antenna 26240-20	BX92415
Flann STD Gain Horn Antenna 27240-20	BX92416
Mixer FS-Z60	BX90566
Mixer FS-Z90	BX90567
Mixer FS-Z110	BX81425
Miteq, Low Noise Amplifier	503 278
EMCO Horn Antenna 3115	502 175
EMCO Horn Antenna 3115	501 548
µComp Nordic, Low Noise Amplifier	901 544
RF Cable	BX81423
RF Cable	503 681
RF Cable FSW-B21	BX62069
RF Cable FSW-B21	BX62073
Temperature and humidity meter, Testo 615	503 498

EAB Measurement equipment

Calibrated at RISE before testing

	S/N
SWH010 HPF 30-40 GHz	ST010619225
SSL036 LPF 26,5 GHz	ST012717003

Results

The diagrams represents worst case configurations for each frequency range.

AC: KRK 101 01/1

Diagram	Symbolic name	Config mode	Pol	Frequency range	Measurement method	“Early exit?”
11a	BL ₅₀	2	Hor	30-1000 MHz	Pre scan EIRP	Yes
11b	BL ₅₀	2	Ver	30-1000 MHz	Pre scan EIRP	Yes
12a	BT8 ₁₀₀	1	Hor	30-1000 MHz	Pre scan EIRP	Yes
12b	BT8 ₁₀₀	1	Ver	30-1000 MHz	Pre scan EIRP	Yes
13a	BL ₅₀	2	Hor	1-18 GHz	Pre scan EIRP	Yes
13b	BL ₅₀	2	Ver	1-18 GHz	Pre scan EIRP	Yes
14a	BT8 ₁₀₀	1	Hor	1-18 GHz	Pre scan EIRP	Yes
14b	BT8 ₁₀₀	1	Ver	1-18 GHz	Pre scan EIRP	Yes
15a	BL ₅₀	2	Hor	18-26.5 GHz	Pre scan EIRP	No
15b	BL ₅₀	2	Ver	18-26.5 GHz	Pre scan EIRP	No
15c	BL ₅₀	2	Hor/Ver	25.47-25.57 GHz	Two cut TRP	Compliant to TRP limit
16a	BT8 ₁₀₀	1	Hor	18-26.5 GHz	Pre scan EIRP	Yes
16b	BT8 ₁₀₀	1	Ver	18-26.5 GHz	Pre scan EIRP	Yes
17a	BL ₅₀	2	Hor	26.5-30 GHz	Pre scan EIRP	No
17b	BL ₅₀	2	Ver	26.5-30 GHz	Pre scan EIRP	No
17c	BL ₅₀	2	Hor	27-27.51 GHz	Pre scan EIRP	Yes*
17d	BL ₅₀	2	Ver	27-27.51 GHz	Pre scan EIRP	Yes*
18a	Bim3 ₅₀	2	Hor	26.5-30 GHz	Pre scan EIRP	No
18b	Bim3 ₅₀	2	Ver	26.5-30 GHz	Pre scan EIRP	No
18c	Bim3 ₅₀	2	Hor	27-27.51 GHz	Pre scan EIRP	No
18d	Bim3 ₅₀	2	Ver	27-27.51 GHz	Pre scan EIRP	No
18e	Bim3 ₅₀	2	Hor/Ver	27.3-27.5 GHz	Pattern multiplication TRP	Compliant to TRP limit
19a	TL ₅₀	2	Hor	27.625-28.225 GHz	Pre scan EIRP	Yes*
19b	TL ₅₀	2	Ver	27.625-28.225 GHz	Pre scan EIRP	Yes*
20a	BH ₅₀	2	Hor	27.625-28.225 GHz	Pre scan EIRP	Yes*
20b	BH ₅₀	2	Ver	27.625-28.225 GHz	Pre scan EIRP	Yes*
21a	TH ₅₀	2	Hor	26.5-30 GHz	Pre scan EIRP	No
21b	TH ₅₀	2	Ver	26.5-30 GHz	Pre scan EIRP	No
21c	TH ₅₀	2	Hor/Ver	27.4-27.5 GHz	Two cut TRP	Compliant to TRP limit
21d	TH ₅₀	2	Hor	28.34-28.85 GHz	Pre scan EIRP	Yes*
21e	TH ₅₀	2	Ver	28.34-28.85 GHz	Pre scan EIRP	Yes*
22a	Tim3 ₅₀	2	Hor	26.5-30 GHz	Pre scan EIRP	No
22b	Tim3 ₅₀	2	Ver	26.5-30 GHz	Pre scan EIRP	No
22c	Tim3 ₅₀	2	Hor	28.34-28.85 GHz	Pre scan EIRP	No
22d	Tim3 ₅₀	2	Ver	28.34-28.85 GHz	Pre scan EIRP	No
22e	Tim3 ₅₀	2	Hor/Ver	28.35-28.85 GHz	Pattern multiplication TRP	Compliant to TRP limit

* Calculated conducted power based on antenna gain below limit

Diagram	Symbolic name	Config mode	Pol	Frequency range	Measurement method	“Early exit?”
23a	BT8 ₅₀	1	Hor	26.5-30 GHz	Pre scan EIRP	No
23b	BT8 ₅₀	1	Ver	26.5-30 GHz	Pre scan EIRP	No
23c	BT8 ₅₀	1	Hor	27-27.51 GHz	Pre scan EIRP	Yes ¹
23d	BT8 ₅₀	1	Ver	27-27.51 GHz	Pre scan EIRP	Yes ¹
23e	BT8 ₅₀	1	Hor	28.34-28.85 GHz	Pre scan EIRP	Yes ²
23f	BT8 ₅₀	1	Ver	28.34-28.85 GHz	Pre scan EIRP	Yes ²
24a	BT8 ₁₀₀	1	Hor	26.5-30 GHz	Pre scan EIRP	No
24b	BT8 ₁₀₀	1	Ver	26.5-30 GHz	Pre scan EIRP	No
24c	BT8 ₁₀₀	1	Hor	27-27.51 GHz	Pre scan EIRP	Yes ¹
24d	BT8 ₁₀₀	1	Ver	27-27.51 GHz	Pre scan EIRP	Yes ¹
24e	BT8 ₁₀₀	1	Hor	28.34-28.85 GHz	Pre scan EIRP	Yes ²
24f	BT8 ₁₀₀	1	Ver	28.34-28.85 GHz	Pre scan EIRP	Yes ²
25a	BL ₅₀	2	Hor	30-40 GHz	Pre scan EIRP	No
25b	BL ₅₀	2	Ver	30-40 GHz	Pre scan EIRP	No
25c	BL ₅₀	2	Hor/Ver	30.55-30.65 GHz	Two cut TRP	Compliant to TRP limit
26a	BT8 ₁₀₀	1	Hor	30-40 GHz	Pre scan EIRP	Yes ³
26b	BT8 ₁₀₀	1	Ver	30-40 GHz	Pre scan EIRP	Yes ³
27a	BL ₅₀	2	Hor	40-60 GHz	Pre scan EIRP	Yes
27b	BL ₅₀	2	Ver	40-60 GHz	Pre scan EIRP	Yes
28a	BT8 ₁₀₀	1	Hor	40-60 GHz	Pre scan EIRP	Yes
28b	BT8 ₁₀₀	1	Ver	40-60 GHz	Pre scan EIRP	Yes
29a	BL ₅₀	2	Hor	60-80 GHz	Pre scan EIRP	Yes
29b	BL ₅₀	2	Ver	60-80 GHz	Pre scan EIRP	Yes
30a	BT8 ₁₀₀	1	Hor	60-80 GHz	Pre scan EIRP	Yes
30b	BT8 ₁₀₀	1	Ver	60-80 GHz	Pre scan EIRP	Yes
31a	BL ₅₀	2	Hor	80-100 GHz	Pre scan EIRP	Yes
31b	BL ₅₀	2	Ver	80-100 GHz	Pre scan EIRP	Yes
32a	BT8 ₁₀₀	1	Hor	80-100 GHz	Pre scan EIRP	Yes
32b	BT8 ₁₀₀	1	Ver	80-100 GHz	Pre scan EIRP	Yes

¹⁾ Early Exit based on Lower EIRP compared to BIM3₅₀ (Diagram 18)

²⁾ Early Exit based on Lower EIRP compared to TIM3₅₀ (Diagram 22)

³⁾ Early Exit based on Lower EIRP compared to BL50 (Diagram 25). Both frequencies in the plots is 6xLo (one from each segment)

DC: KRK 101 01/2:

Diagram	Symbolic name	Config mode	Pol	Frequency range	Measurement method	“Early exit?”
33a	BL ₅₀	2	Hor	30-1000 MHz	Pre scan EIRP	Yes
33b	BL ₅₀	2	Ver	30-1000 MHz	Pre scan EIRP	Yes

Measurement uncertainty: 30 – 1000 MHz 3.1 dB
 1 – 18 GHz, 3.0 dB
 18 – 40 GHz, 3.1 dB
 40 – 60 GHz, 2.27 dB
 60 – 75 GHz, 2.70 dB
 75 – 100 GHz, 4.24 dB

Limits

CFR 47 §30.203 Emission limits.

(a) The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be -13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.

(b)(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges as the design permits.

(3) The measurements of emission power can be expressed in peak or average values.

Complies?	Yes
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Diagram 13a: Pre scan 1 – 18 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization

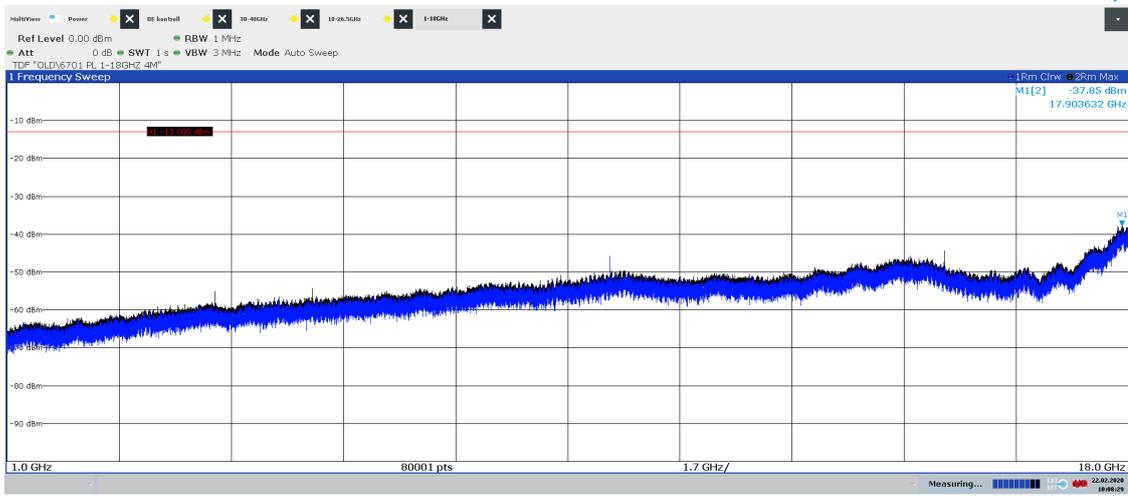


Diagram 13b: Pre scan 1 – 18 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization

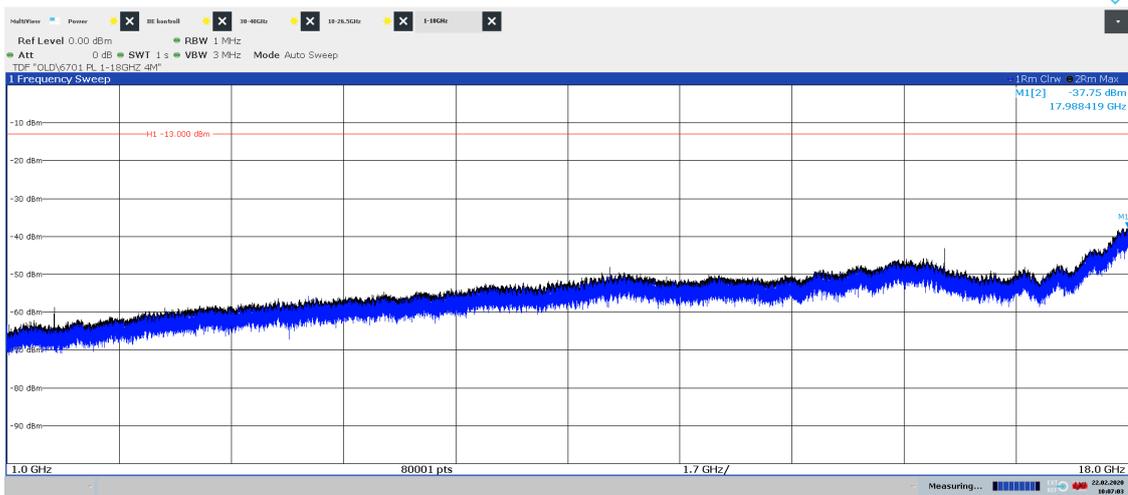


Diagram 14a: Pre scan 1 – 18 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization

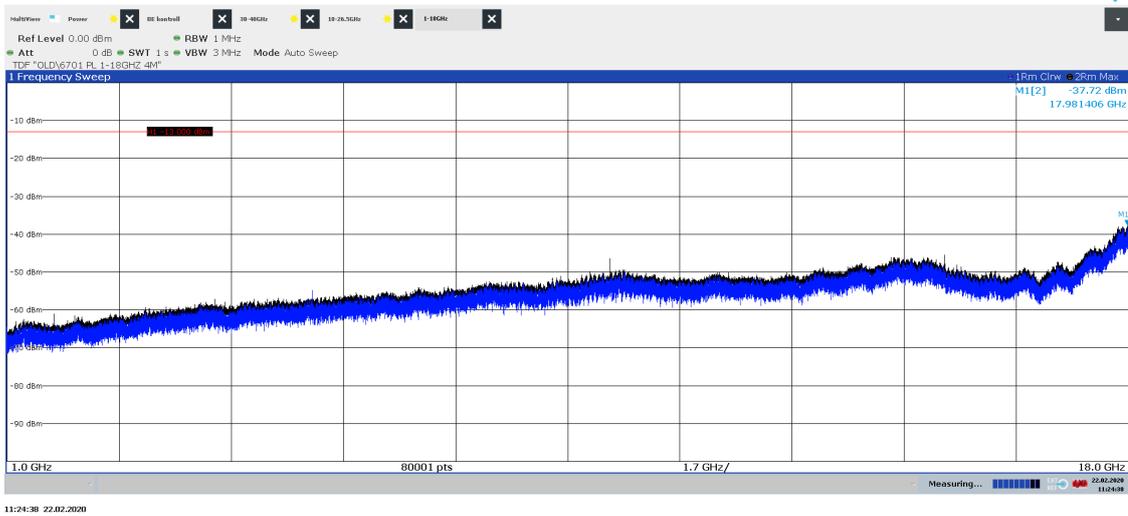


Diagram 14b: Pre scan 1 – 18 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization

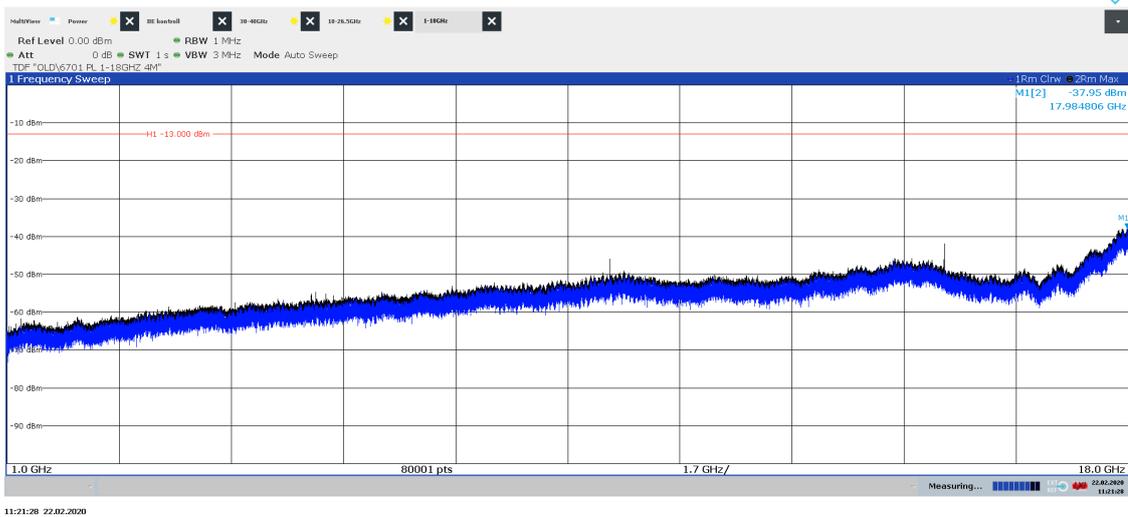
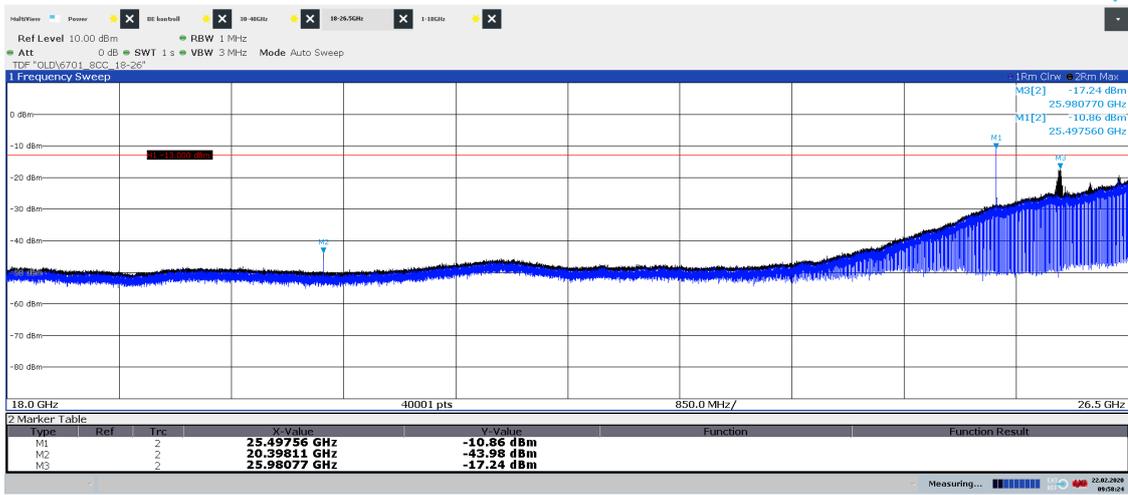
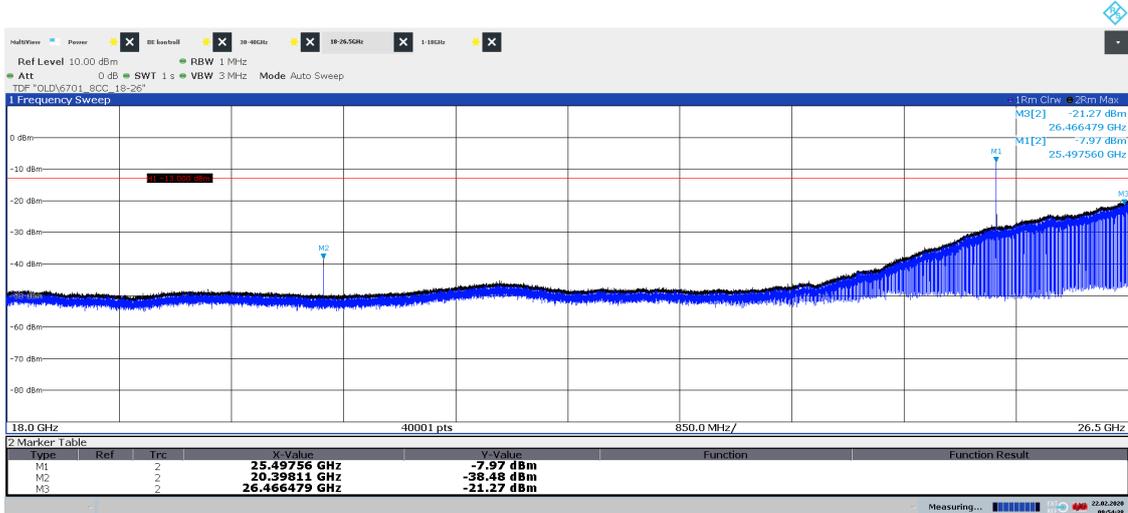


Diagram 15a: Pre scan 18 – 26.5 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization
See diagram 15c for TRP result



09:58:24 22.02.2020

Diagram 15b: Pre scan 18 – 26.5 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization
See diagram 15c for TRP result



09:54:38 22.02.2020

Diagram 15c: Two cut TRP 25.47 – 25.57 GHz 5x LO, Symbolic name: BL₅₀

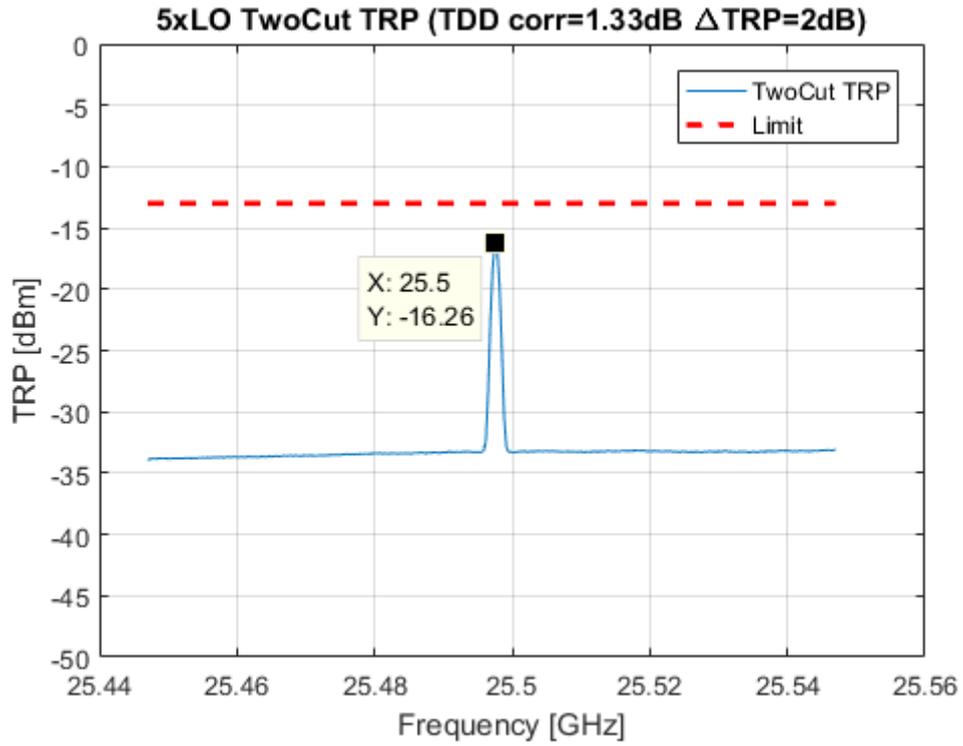
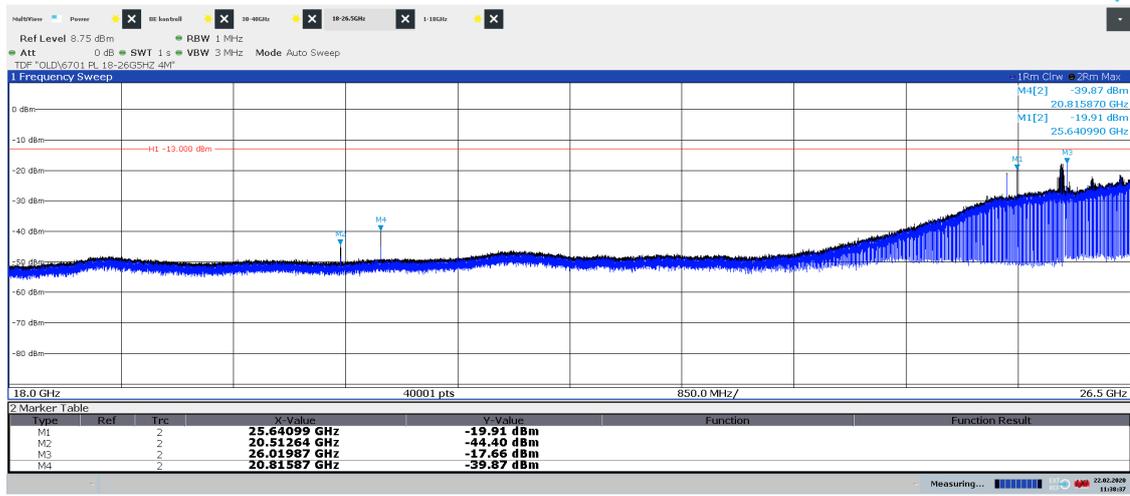
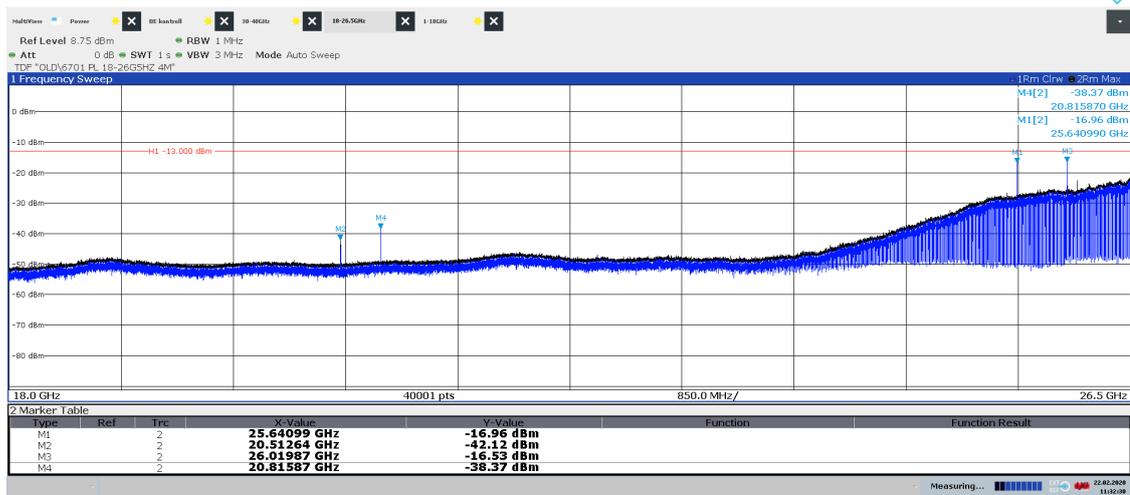


Diagram 16a: Pre scan 18 – 26.5 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization



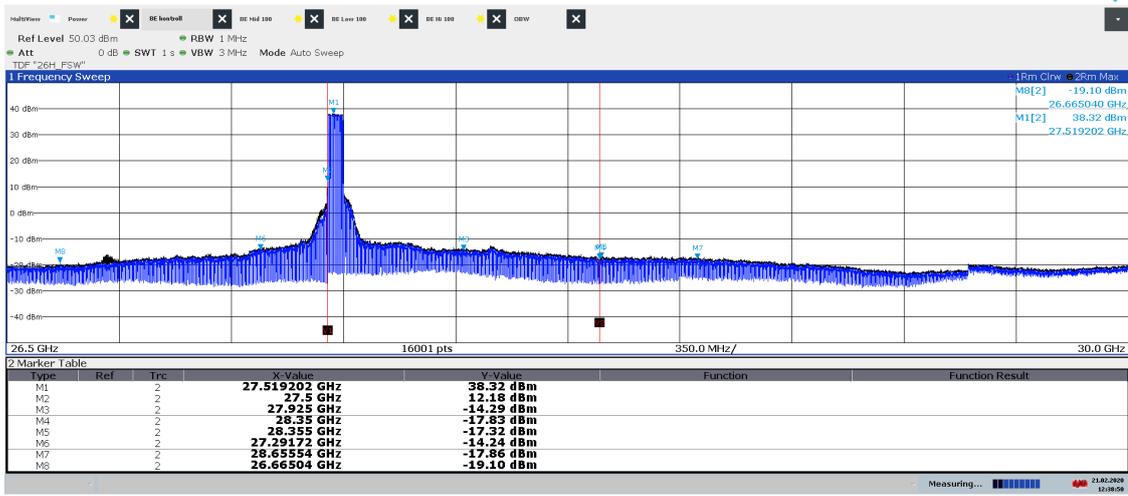
11:38:37 22.02.2020

Diagram 16b: Pre scan 18 – 26.5 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization



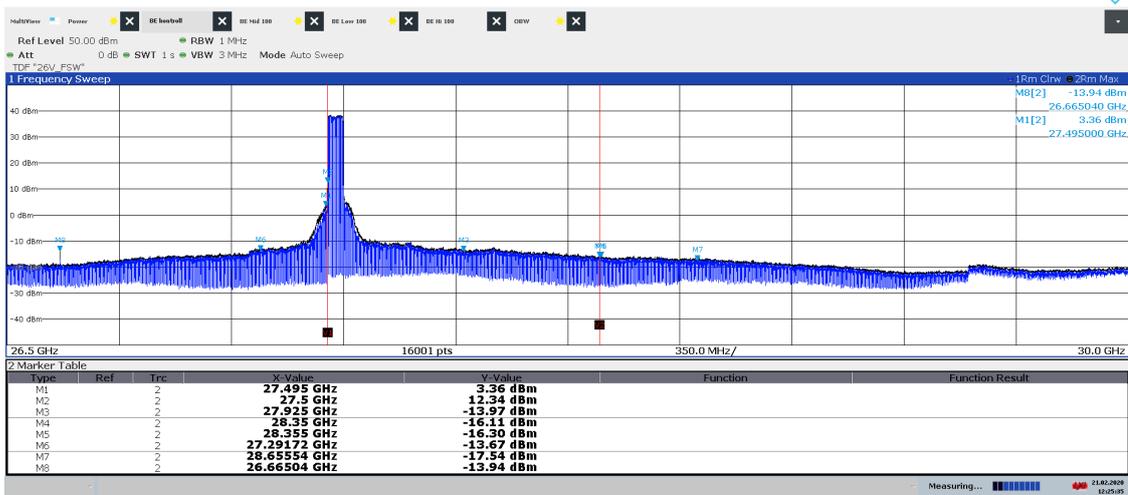
11:32:31 22.02.2020

Diagram 17a: Pre scan 26.5 – 30.0 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization



12:38:50 21.02.2020

Diagram 17b: Pre scan 26.5 – 30.0 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization



12:25:35 21.02.2020

Diagram 17c: Pre scan 27.00 – 27.51 GHz, Symbolic name: BL₁₀₀, EIRP Horizontal polarization

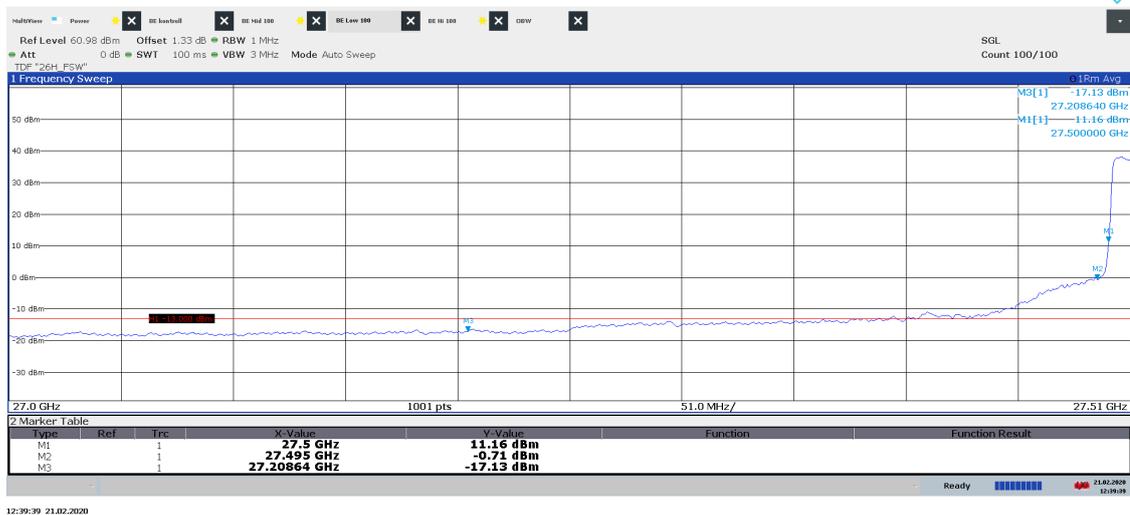
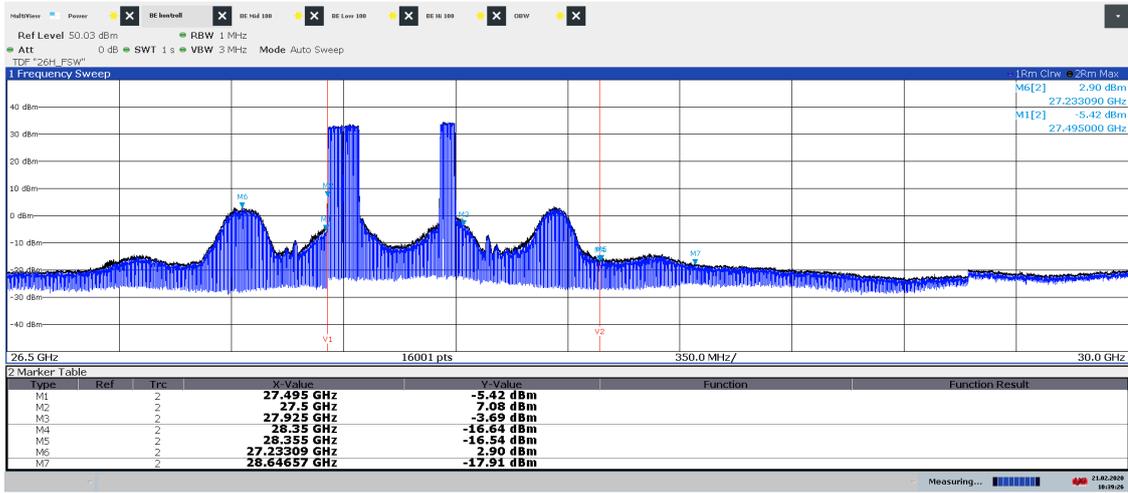


Diagram 17d: Pre scan 27.00 – 27.51 GHz, Symbolic name: BL₁₀₀, EIRP Vertical polarization



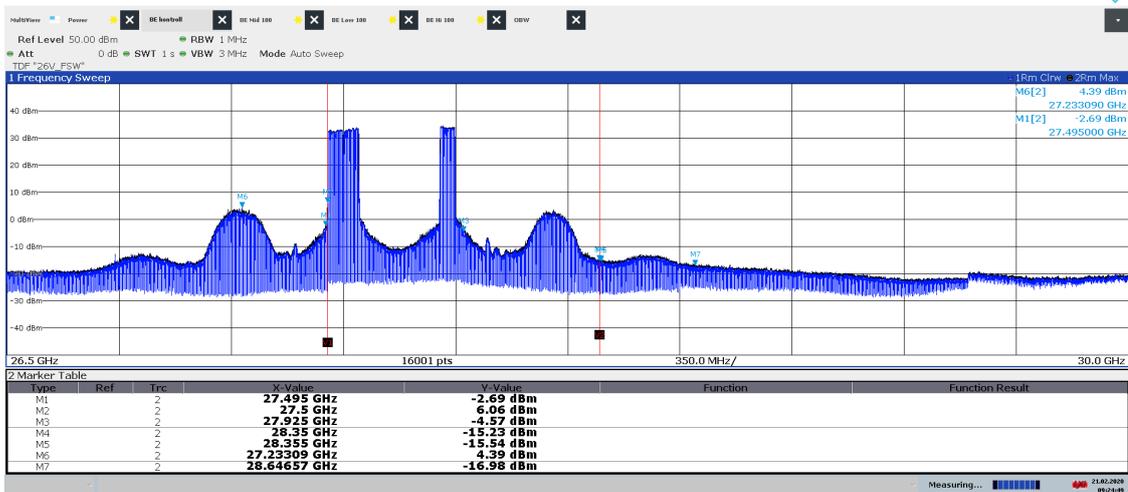
Power EIRP for 27.5GHz Hor/ Ver [dBm]	Power EIRP for 27.49 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 27.5 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 27.49 GHz (Limit -13 dBm) [dBm]/ Verdict
11.16/ 11.24	-0.71/ 1.20	28.17/ 28.30	-14.02/ Pass	-24.89/ Pass

Diagram 18a: Pre scan 26.5 – 30.0 GHz, Symbolic name: Bim3₅₀, EIRP Horizontal polarization
See diagram 18e for TRP result



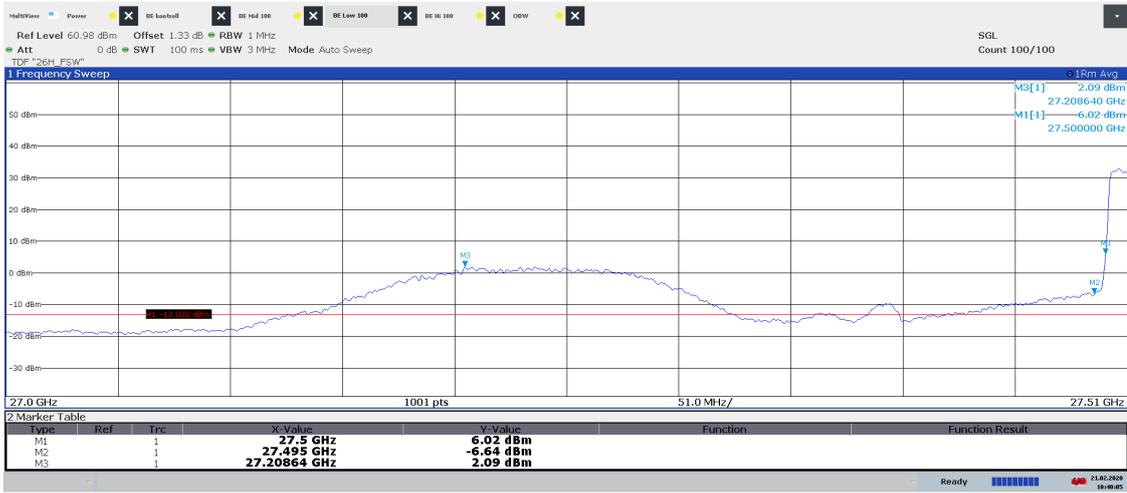
10:39:26 21.02.2020

Diagram 18b: Pre scan 26.5 – 30.0 GHz, Symbolic name: Bim3₅₀, EIRP Vertical polarization
See diagram 18e for TRP result



09:24:49 21.02.2020

Diagram 18c: Pre scan 27.00 – 27.51 GHz, Symbolic name: Bim3₅₀, EIRP Horizontal polarization
See diagram 18e for TRP result



10:40:05 21.02.2020

Diagram 18d: Pre scan 27.00 – 27.51 GHz, Symbolic name: Bim3₅₀, EIRP Vertical polarization
See diagram 18e for TRP result



10:26:59 21.02.2020

Power EIRP for 27.5GHz Hor/ Ver [dBm]	Power EIRP for 27.49 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 27.5 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 27.49 GHz (Limit -13 dBm) [dBm]/ Verdict
6.02/ 5.49	-6.64/ -5.41	28.17/ 28.30	-19.46/ Pass	-31.22/ Pass

Diagram 18e: Pattern multiplication TRP 27.3 – 27.5 GHz, Symbolic name: Bim3₅₀

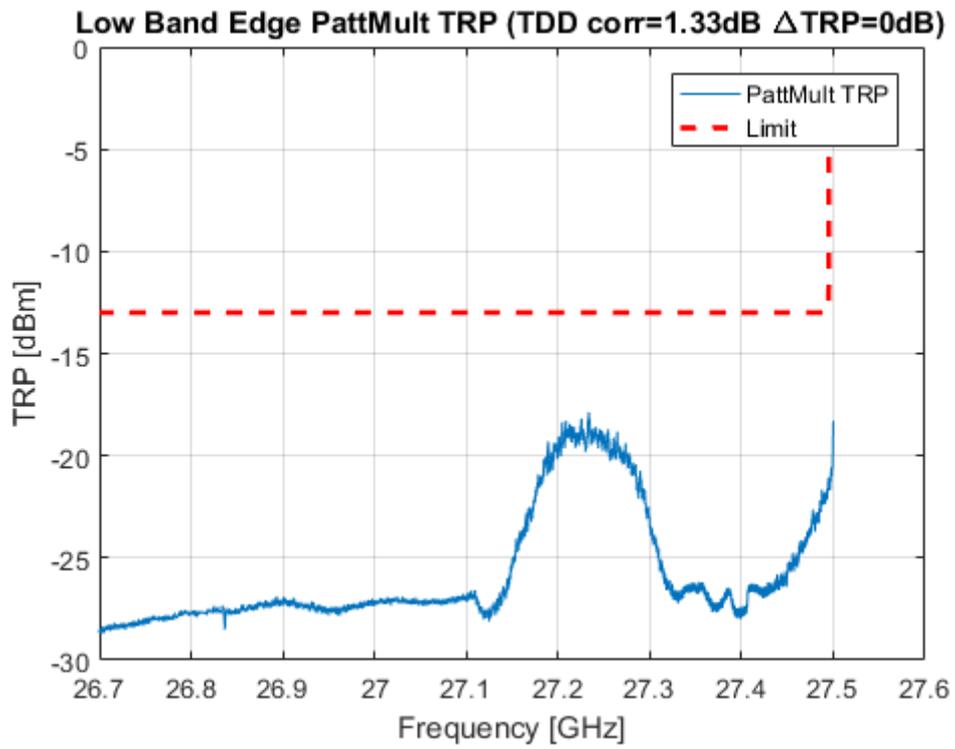


Diagram 19a: Pre scan 27.625 – 28.225 GHz, Symbolic name: TL₅₀, EIRP Horizontal polarization

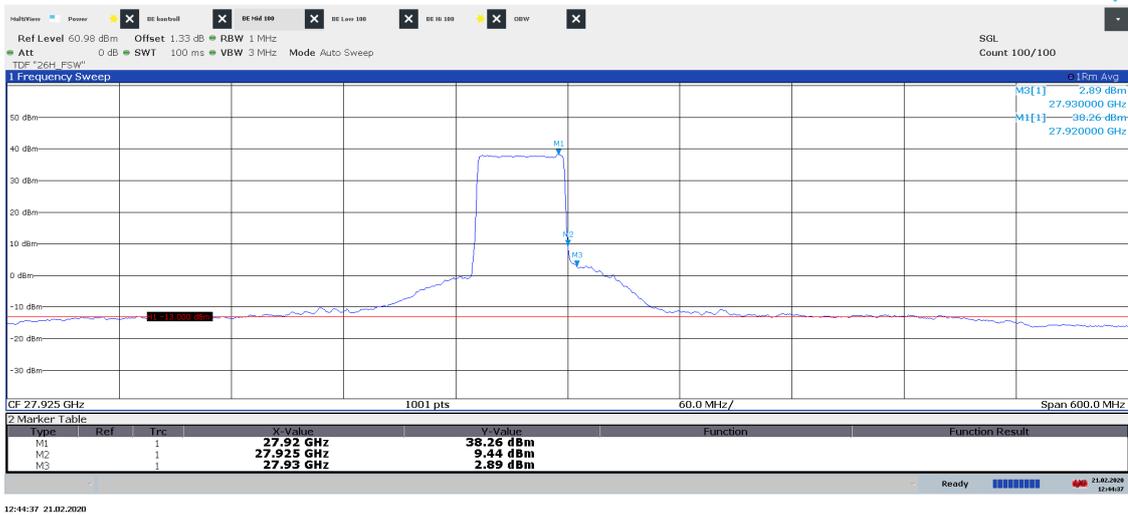
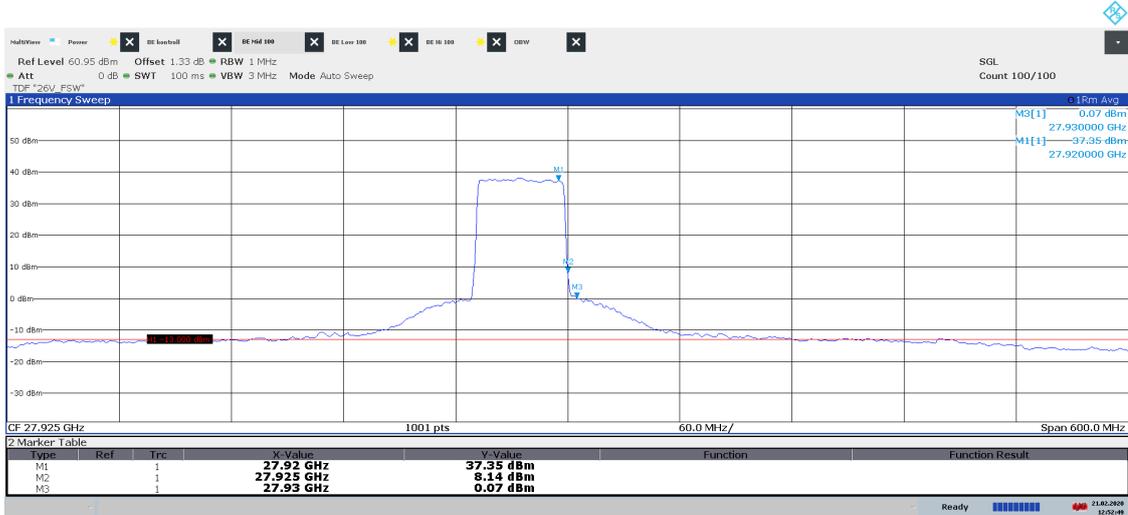


Diagram 19b: Pre scan 27.625 – 28.225 GHz, Symbolic name: TL₅₀, EIRP Vertical polarization



Power EIRP for 27.925 GHz Hor/ Ver [dBm]	Power EIRP for 27.935 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 27.925 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 27.935 GHz (Limit -13 dBm) [dBm]/ Verdict
9.44/ 8.14	2.89/ 0.07	28.9/ 29	-17.09/ Pass	-24.22/ Pass

Diagram 20a: Pre scan 27.625 – 28.225 GHz, Symbolic name: BH₅₀, EIRP Horizontal polarization

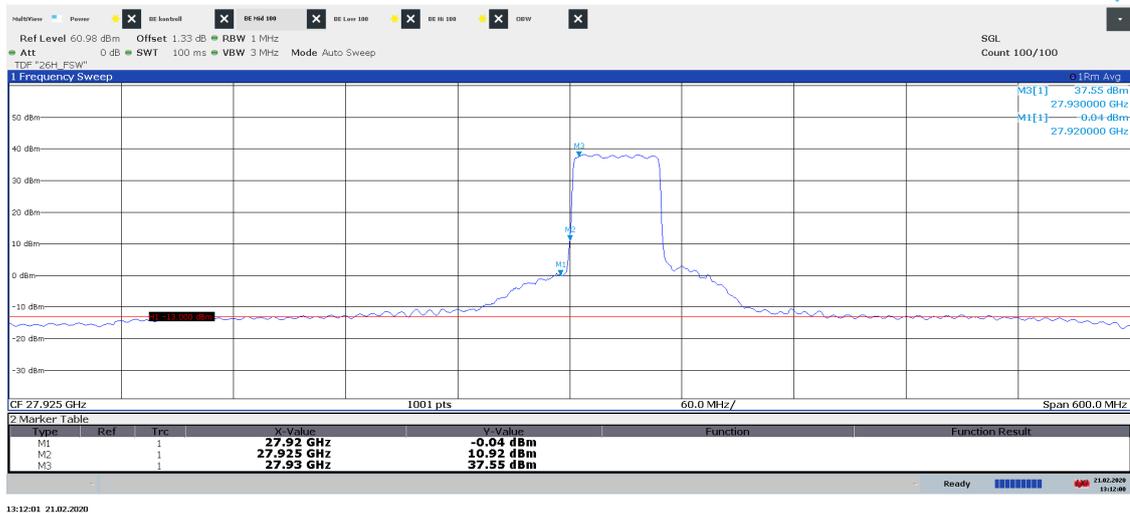
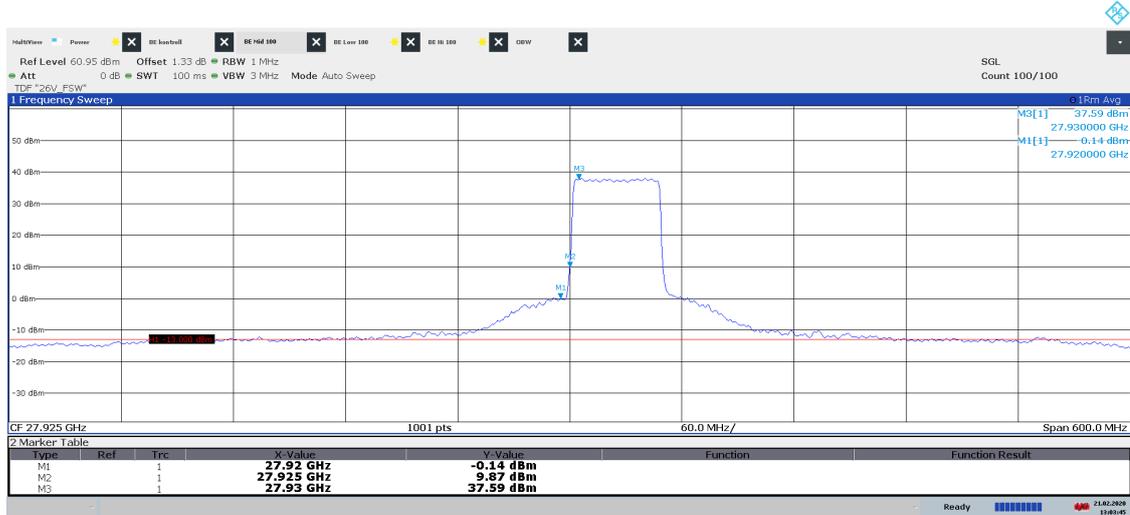
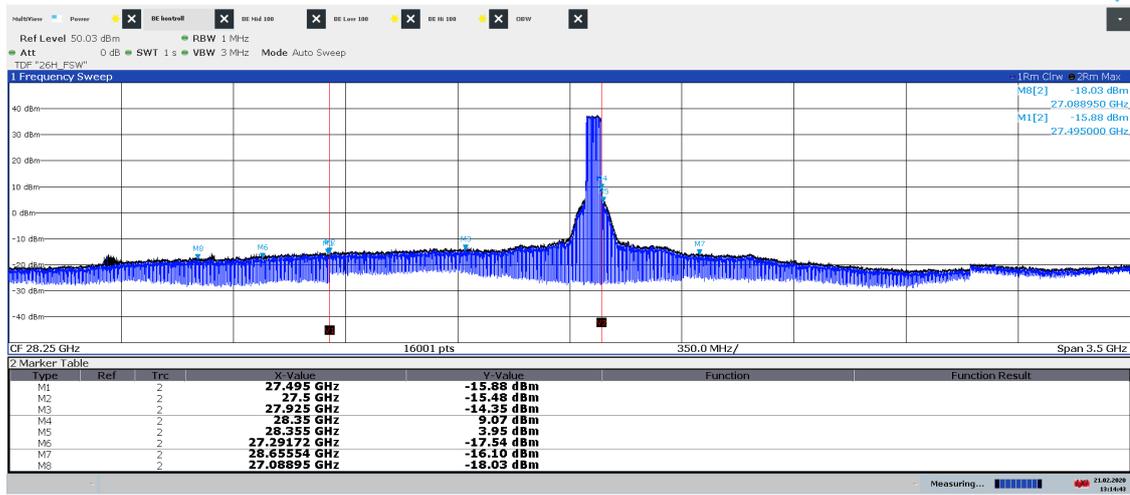


Diagram 20b: Pre scan 27.625 – 28.225 GHz, Symbolic name: BH₅₀, EIRP Vertical polarization



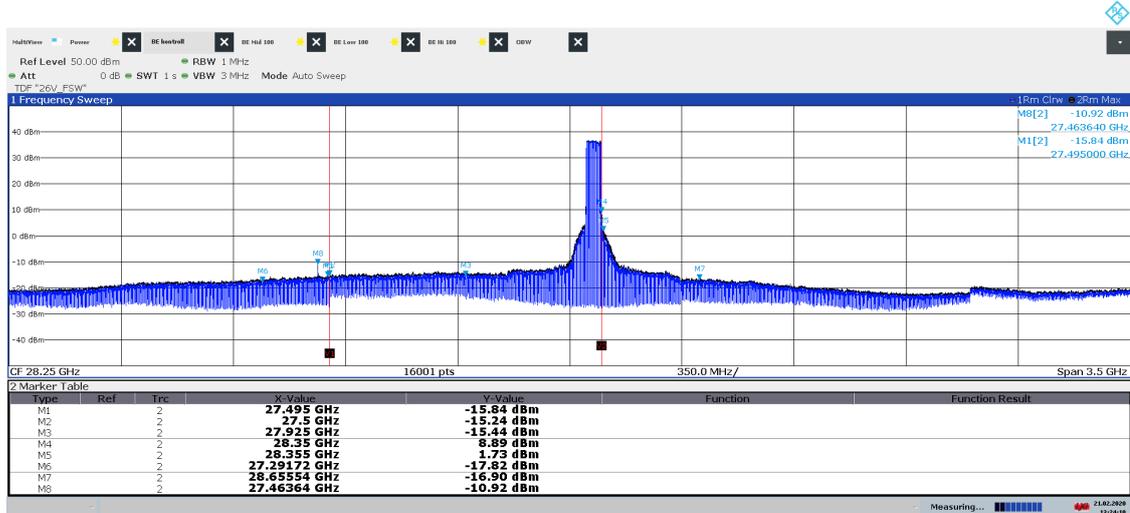
Power EIRP for 27.925 GHz Hor/ Ver [dBm]	Power EIRP for 27.915 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 27.925 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 27.915 GHz (Limit -13 dBm) [dBm]/ Verdict
10.92/ -0.04	-0.19/ -0.14	28.9/ 29	-17.65/ Pass	-26.10/ Pass

Diagram 21a: Pre scan 26.5 – 30.0 GHz, Symbolic name: TH₅₀, EIRP Horizontal polarization
See diagram 21c for TRP result



13:14:43 21.02.2020

Diagram 21b: Pre scan 26.5 – 30.0 GHz, Symbolic name: TH₅₀, EIRP Vertical polarization
See diagram 21c for TRP result



13:24:11 21.02.2020

Diagram 21c: Two cut TRP 27.4 – 27.5 GHz, Symbolic name: TH₅₀

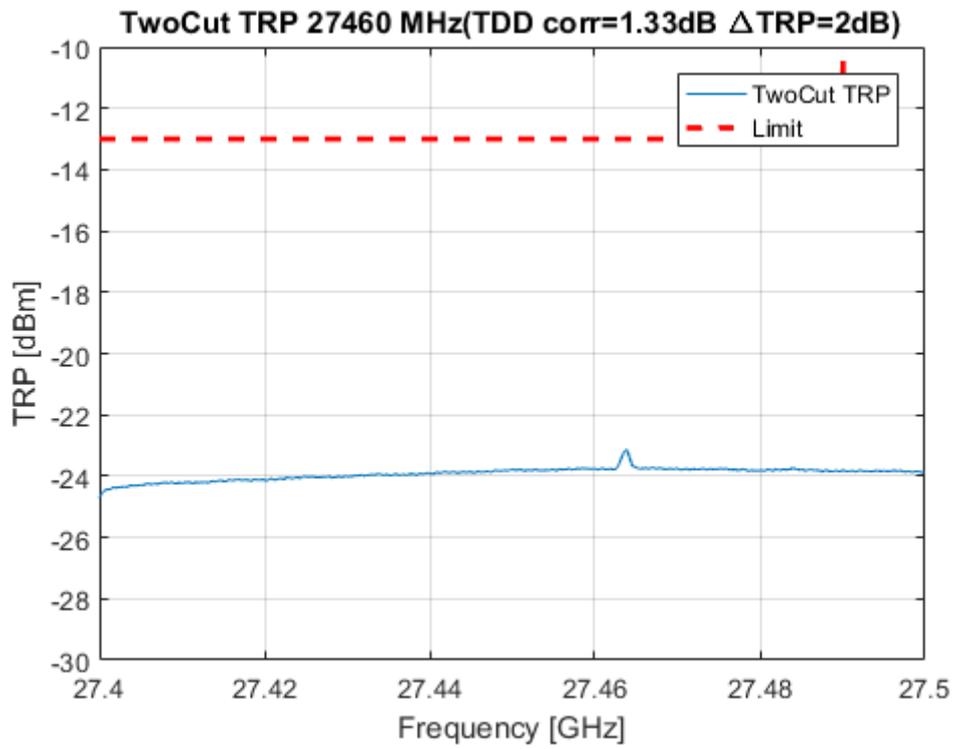


Diagram 21c: Pre scan 28.34 – 28.85 GHz, Symbolic name: TH₅₀, EIRP Horizontal polarization

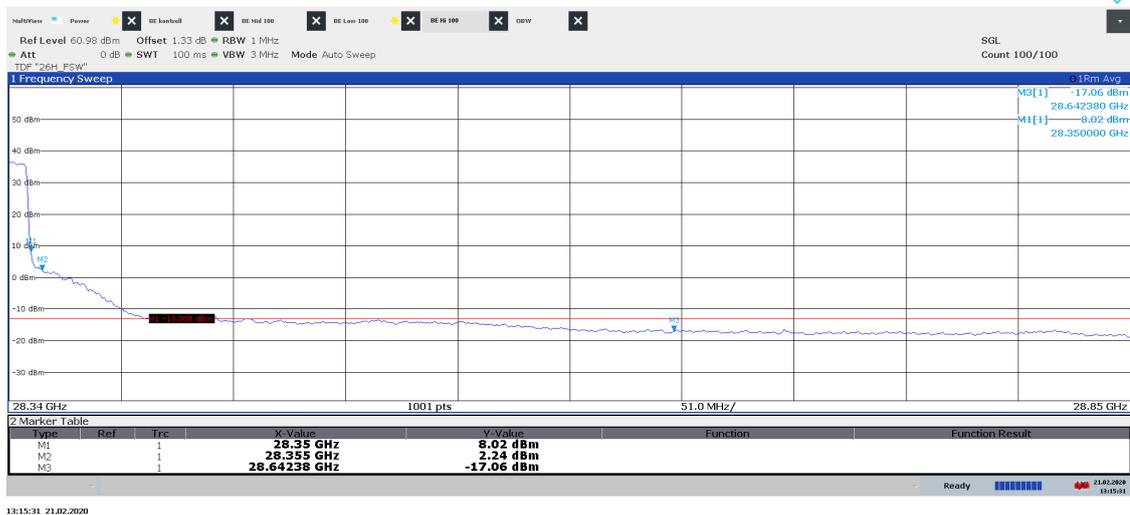
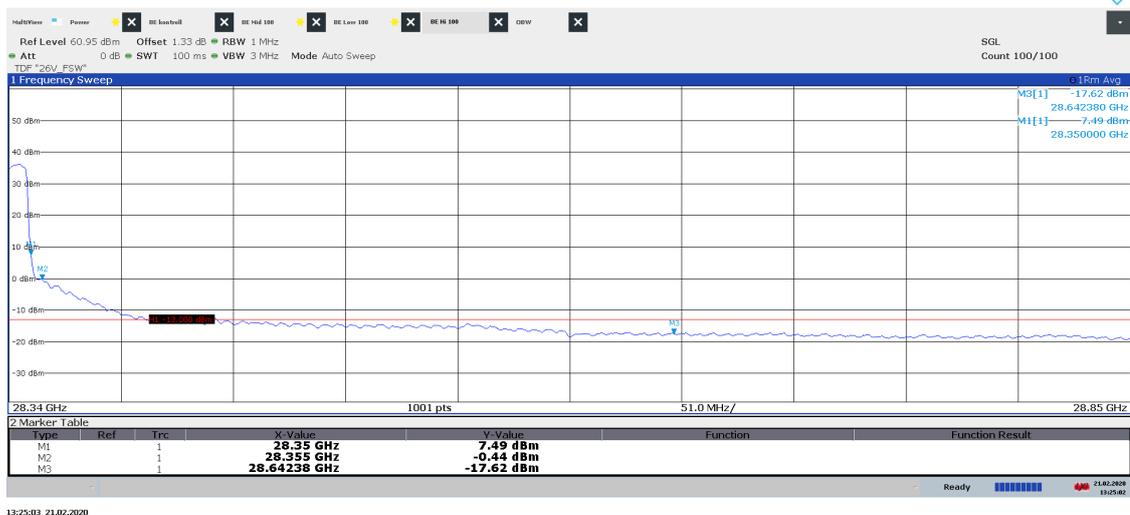
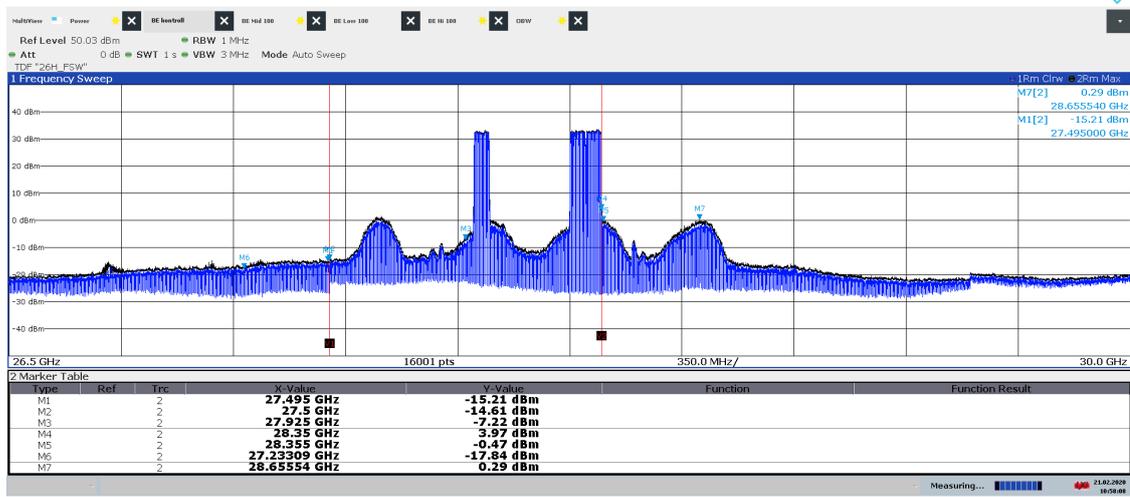


Diagram 21d: Pre scan 28.34 – 28.85 GHz, Symbolic name: TH₅₀, EIRP Vertical polarization



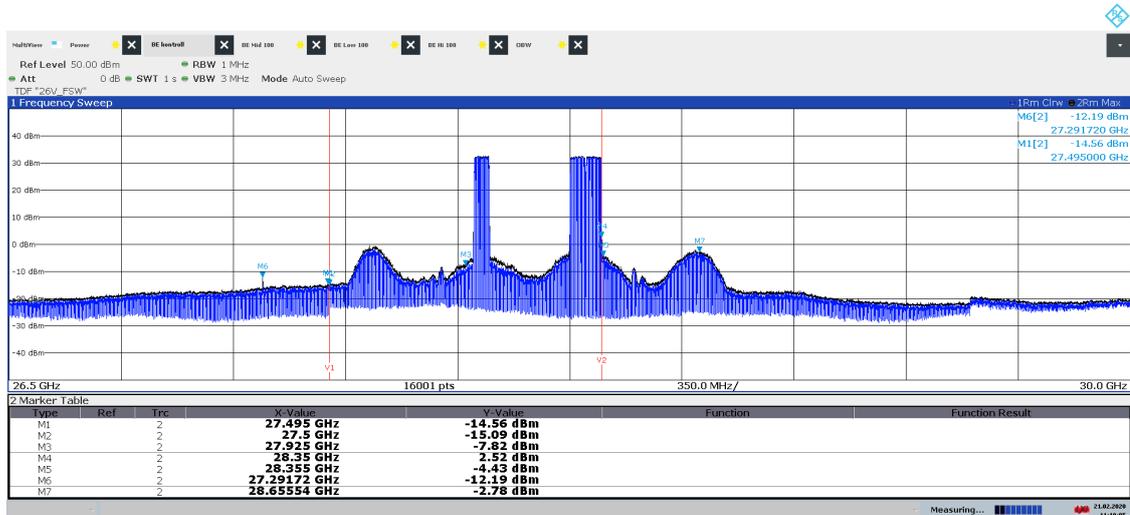
Power EIRP for 28.35 GHz Hor/ Ver [dBm]	Power EIRP for 28.36 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 28.35 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 28.36 GHz (Limit -13 dBm) [dBm]/ Verdict
8.02/ 7.49	2.24/ -0.44	28.91/ 29.11	-18.23/ Pass	-24.87/ Pass

Diagram 22a: Pre scan 26.5 – 30 GHz, Symbolic name: Tim3₅₀, EIRP Horizontal polarization
See diagram 22e for TRP result



10:58:09 21.02.2020

Diagram 22b: Pre scan 26.5 – 30 GHz, Symbolic name: Tim3₅₀, EIRP Vertical polarization
See diagram 22e for TRP result



11:10:05 21.02.2020

Diagram 22c: Pre scan 28.34 – 28.85 GHz, Symbolic name: Tim3₅₀, EIRP Horizontal polarization
See diagram 22e for TRP result

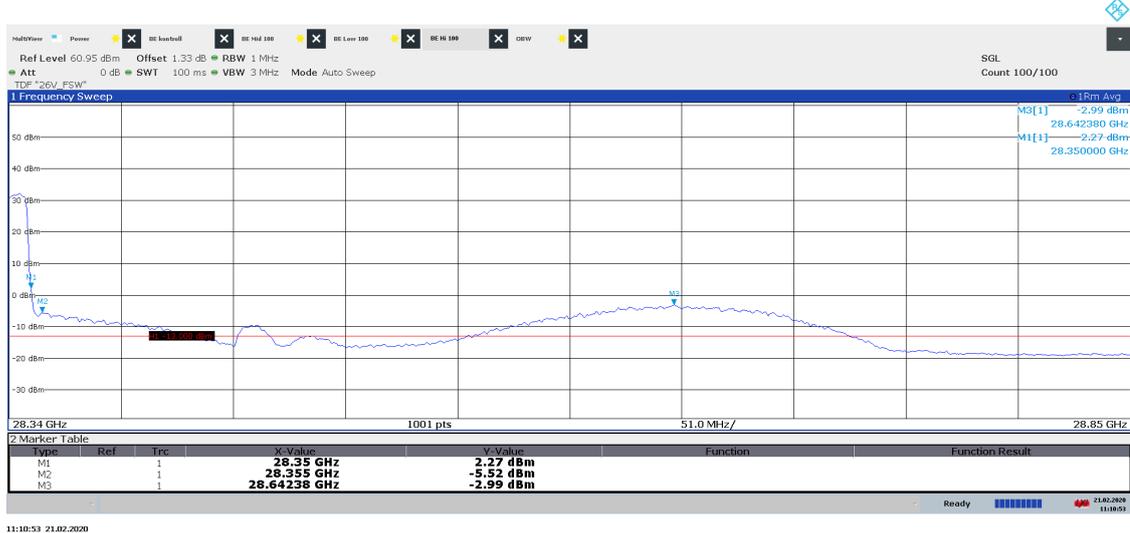
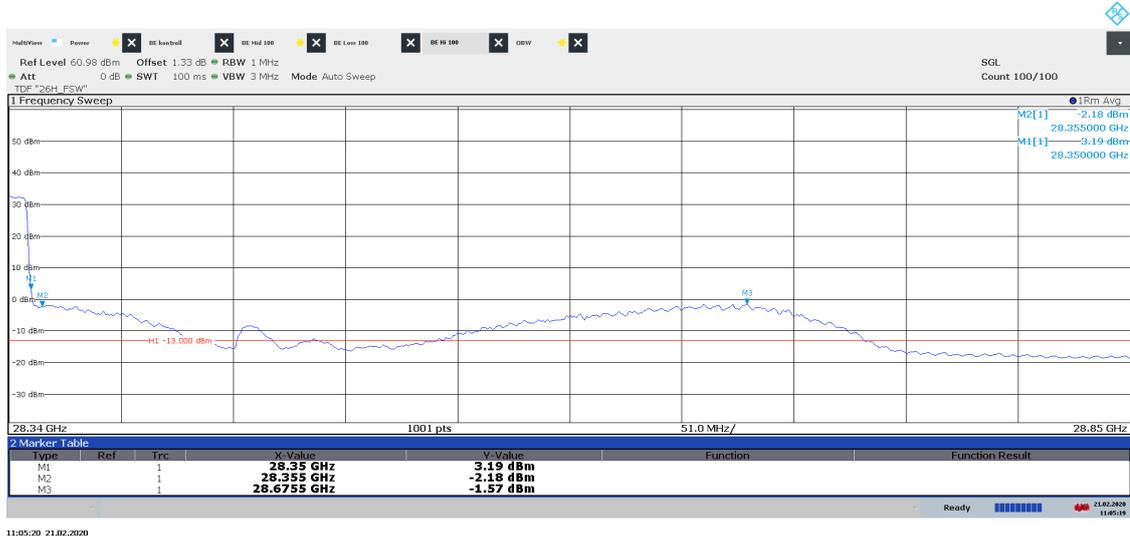


Diagram 22d: Pre scan 28.34 – 28.85 GHz, Symbolic name: Tim3₅₀, EIRP Vertical polarization
See diagram 22e for TRP result



Power EIRP for 28.35 GHz Hor/ Ver [dBm]	Power EIRP for 28.36 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 28.35 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 28.36 GHz (Limit -13 dBm) [dBm]/ Verdict
2.27/ 3.19	-5.52/ -2.18	28.91/ 29.11	-23.25/ Pass	-29.57/ Pass

Diagram 22c: Pattern multiplication TRP 28.35 – 28.85 GHz, Symbolic name: Tim3₅₀

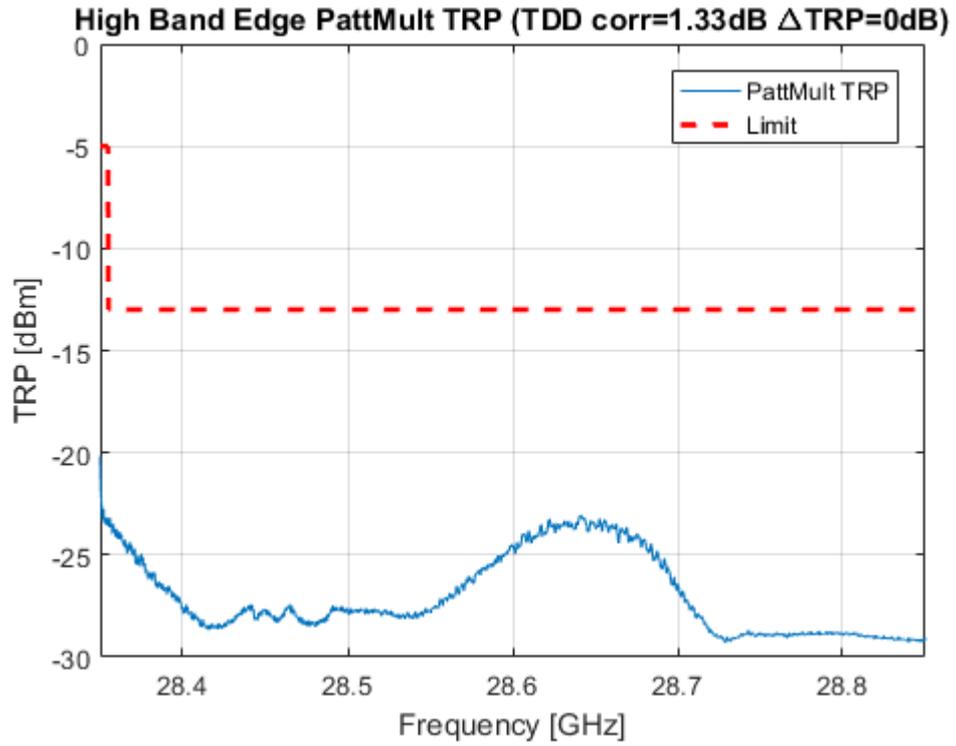


Diagram 23a: Pre scan 26.5 – 30 GHz, Symbolic name: BT8₅₀, EIRP Horizontal polarization

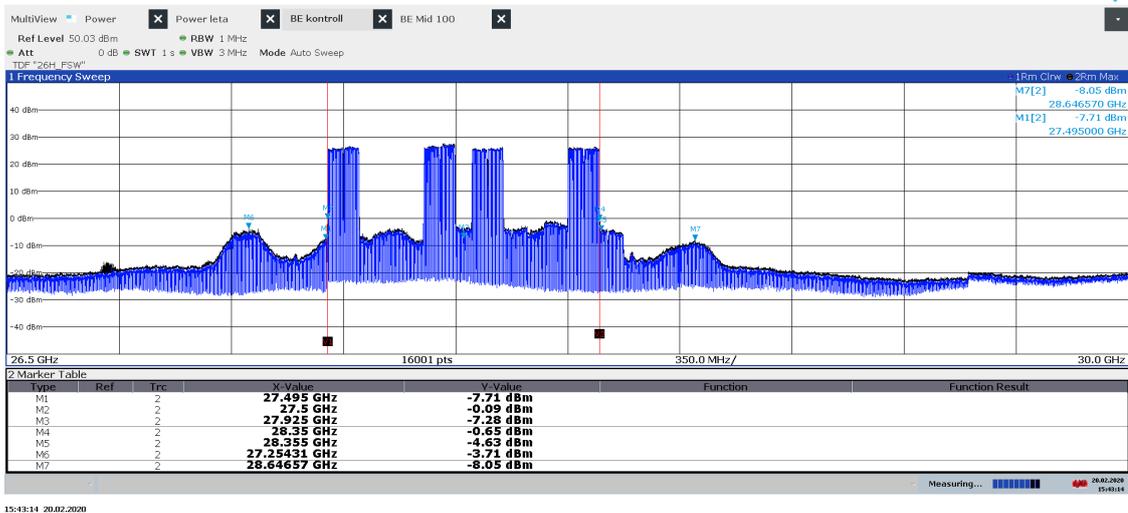


Diagram 23b: Pre scan 26.5 – 30 GHz, Symbolic name: BT8₅₀, EIRP Vertical polarization

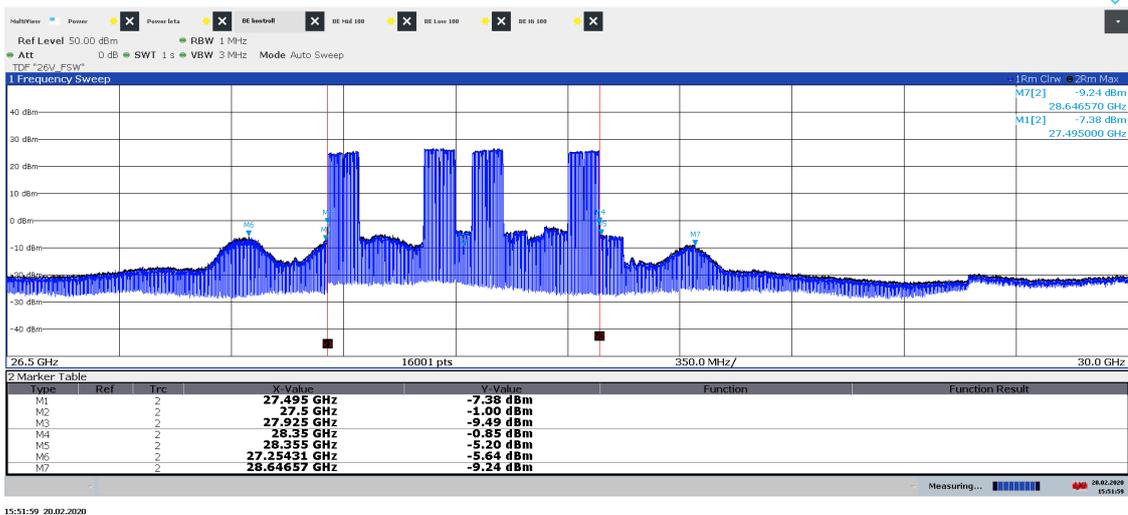
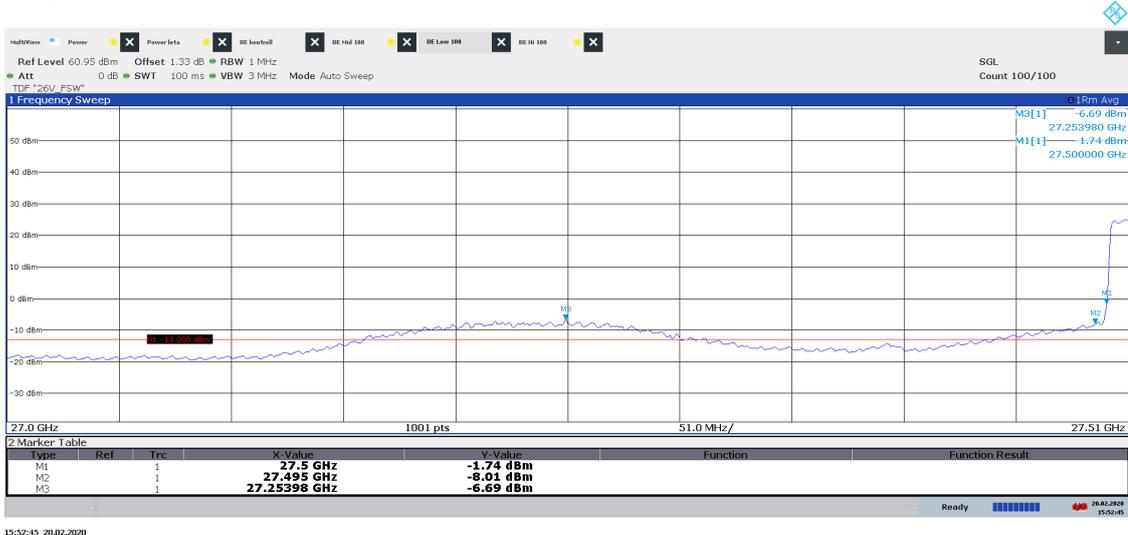


Diagram 23c: Pre scan 27.00 – 27.51 GHz, Symbolic name: BT8₅₀, EIRP Horizontal polarization

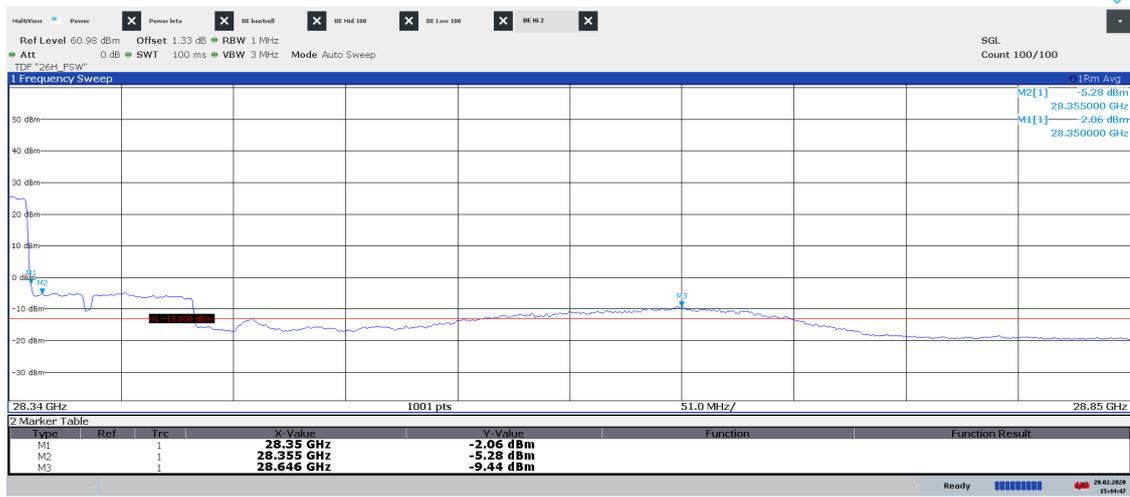


Diagram 23d: Pre scan 27.00 – 27.51 GHz, Symbolic name: BT8₅₀, EIRP Vertical polarization



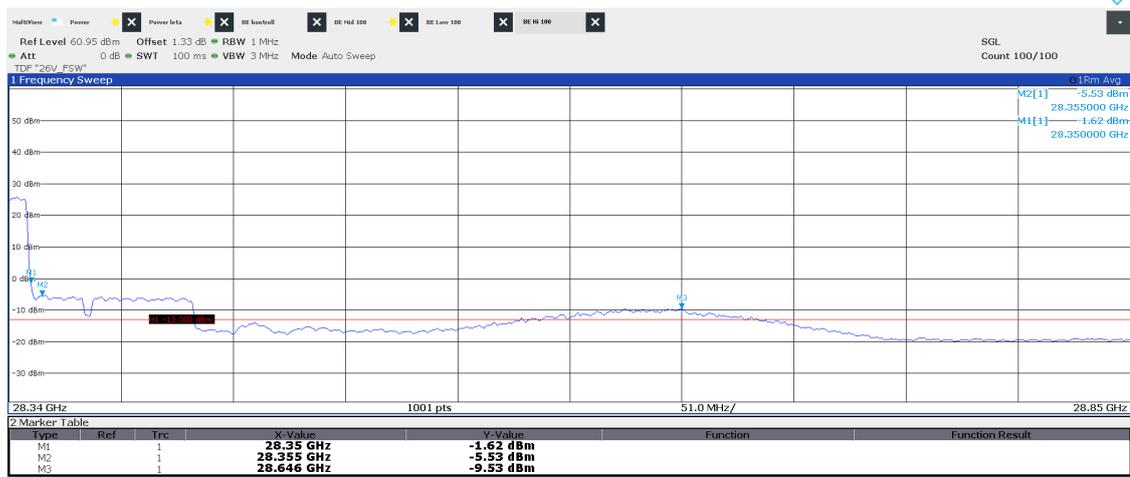
Power EIRP for 27.5GHz Hor/ Ver [dBm]	Power EIRP for 27.49 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 27.5 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 27.49 GHz (Limit -13 dBm) [dBm]/ Verdict
-1.29/ -1.74	-9.36/ -8.01	25.86/ 26.18	-24.51/ Pass	-31.66/ Pass

Diagram 23e: Pre scan 28.34 – 28.85 GHz, Symbolic name: BT8₅₀, EIRP Horizontal polarization



15:44:47 20.02.2020

Diagram 23f: Pre scan 28.34 – 28.85 GHz, Symbolic name: BT8₅₀, EIRP Vertical polarization



15:54:10 20.02.2020

Power EIRP for 28.35 GHz Hor/ Ver [dBm]	Power EIRP for 28.36 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 28.35 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 28.36 GHz (Limit -13 dBm) [dBm]/ Verdict
-2.06/ -5.28	-5.52/ -5.53	25.83/ 26.13	-26.29/ Pass	-28.49/ Pass

Diagram 24a: Pre scan 26.5 – 30 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization

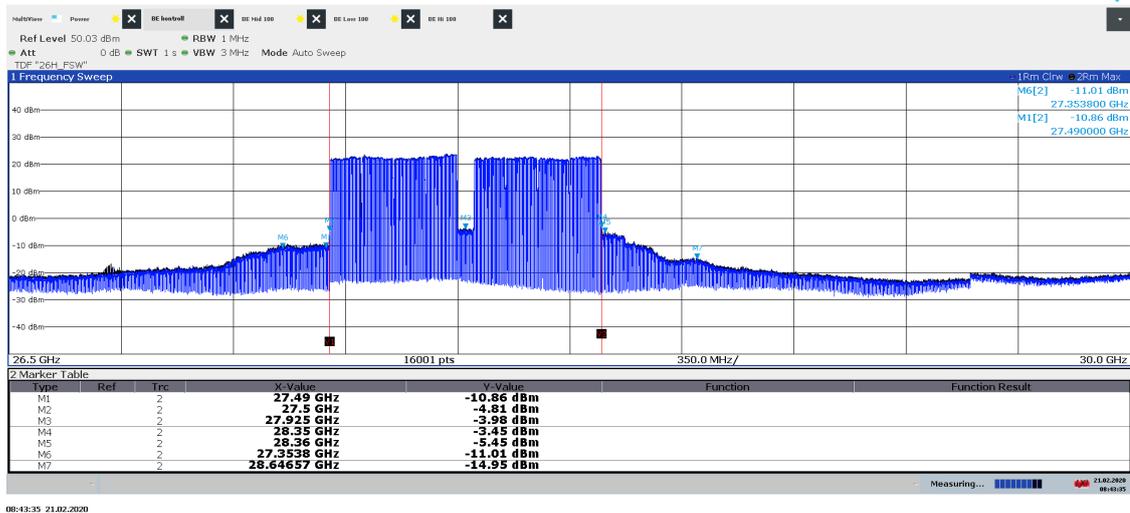


Diagram 24b: Pre scan 26.5 – 30 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization

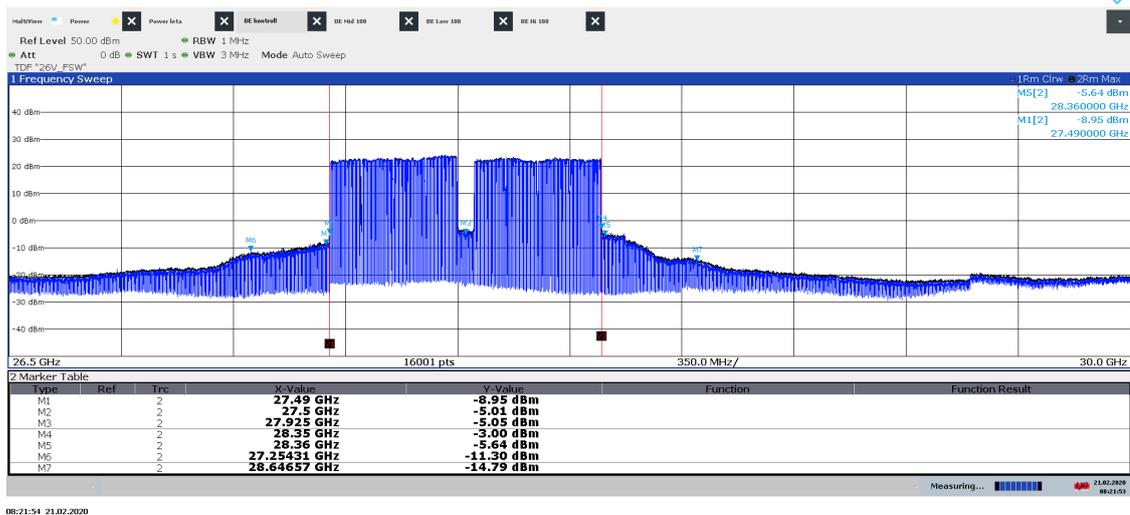
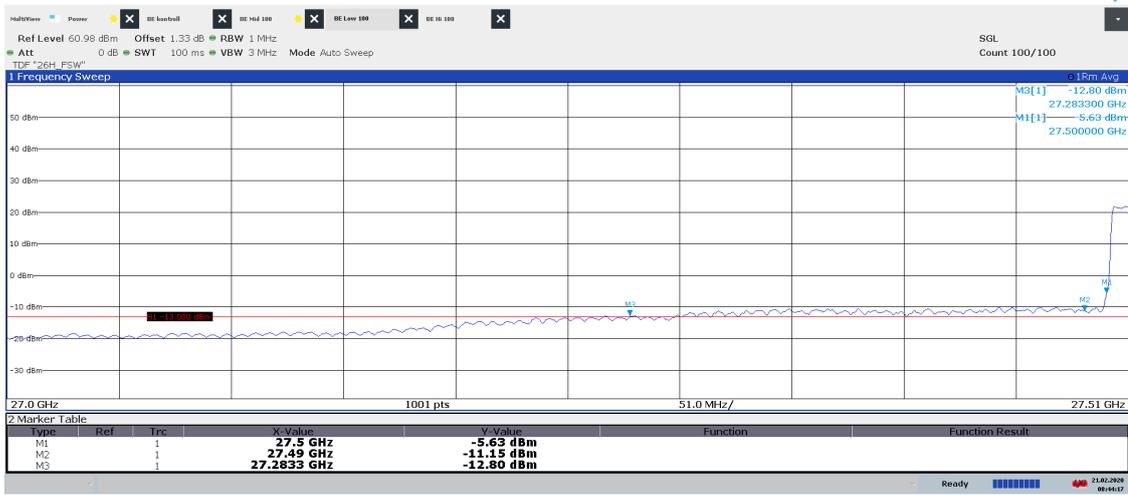


Diagram 24c: Pre scan 27.00 – 27.51 GHz, Symbolic name: BT8₁₀₀EIRP Horizontal polarization



08:44:18 21.02.2020

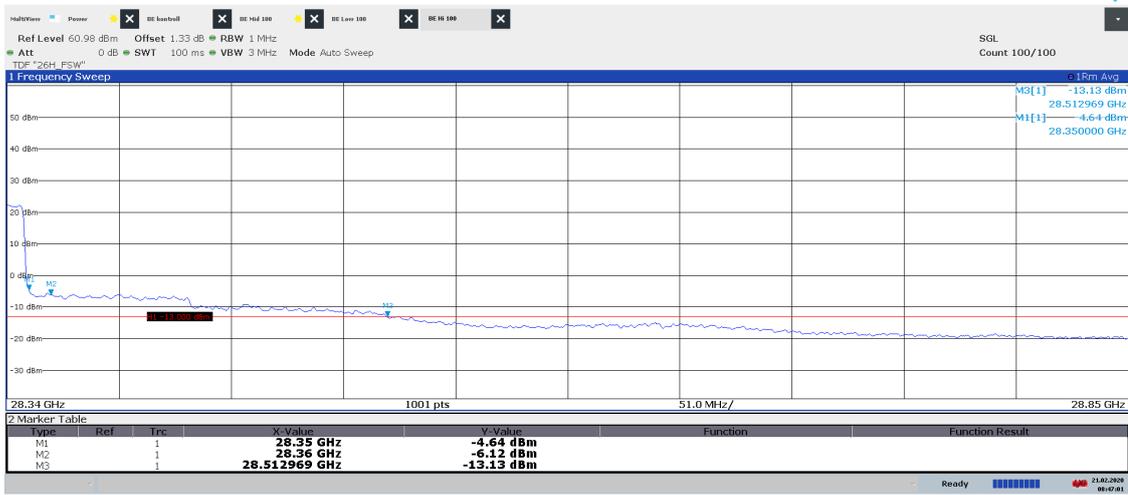
Diagram 24d: Pre scan 27.00 – 27.51 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization



08:25:10 21.02.2020

Power EIRP for 27.5GHz Hor/ Ver [dBm]	Power EIRP for 27.49 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 27.5 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 27.49 GHz (Limit -13 dBm) [dBm]/ Verdict
-5.63/ -5.19	-11.15/ -9.50	25.86/ 26.18	-28.42/ Pass	-33.28/ Pass

Diagram 24e: Pre scan 28.34 – 28.85 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization



08:47:01 21.02.2020

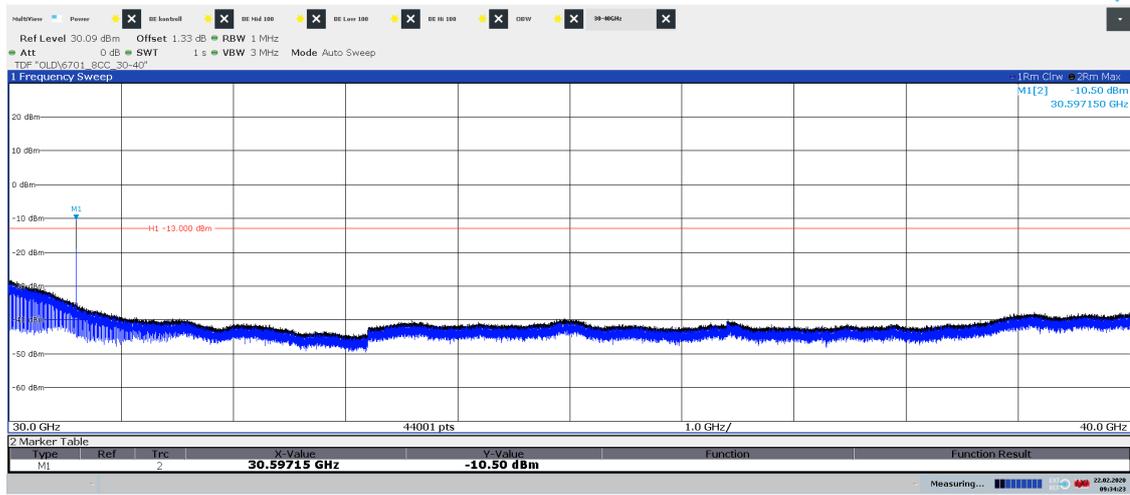
Diagram 24f: Pre scan 28.34 – 28.85 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization



08:26:42 21.02.2020

Power EIRP for 28.35 GHz Hor/ Ver [dBm]	Power EIRP for 28.36 GHz Hor/ Ver [dBm]	Antenna Gain Hor/ Ver [dBi]	Total conducted power/BW for 28.35 GHz (Limit -5 dBm) [dBm]/ Verdict	Total conducted power/BW for 28.36 GHz (Limit -13 dBm) [dBm]/ Verdict
-4.64/ -3.70	-6.12/ -5.83	25.83/ 26.13	-27.13/ Pass	-28.94/ Pass

Diagram 25a: Pre scan 30 – 40 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization
See diagram 25c for TRP result



09:34:24 22.02.2020

Diagram 25b: Pre scan 30 – 40 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization
See diagram 25c for TRP result



09:31:21 22.02.2020

Diagram 25c: Two cut TRP 30.55 – 30.65 GHz 6x LO, Symbolic name: BL₅₀

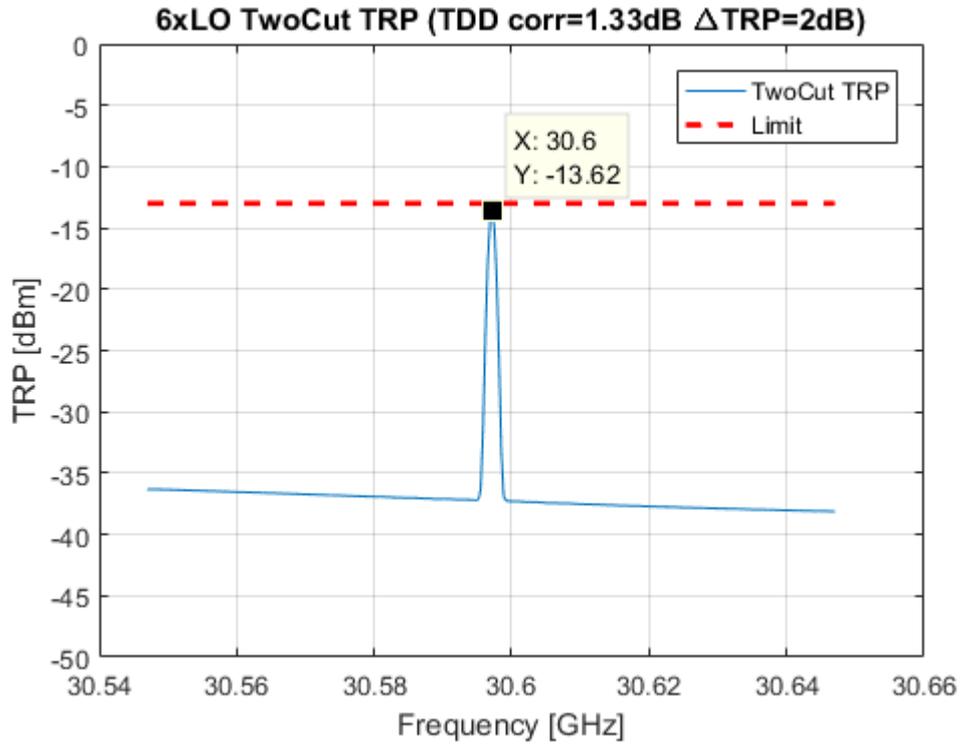


Diagram 26a: Pre scan 30 – 40 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization

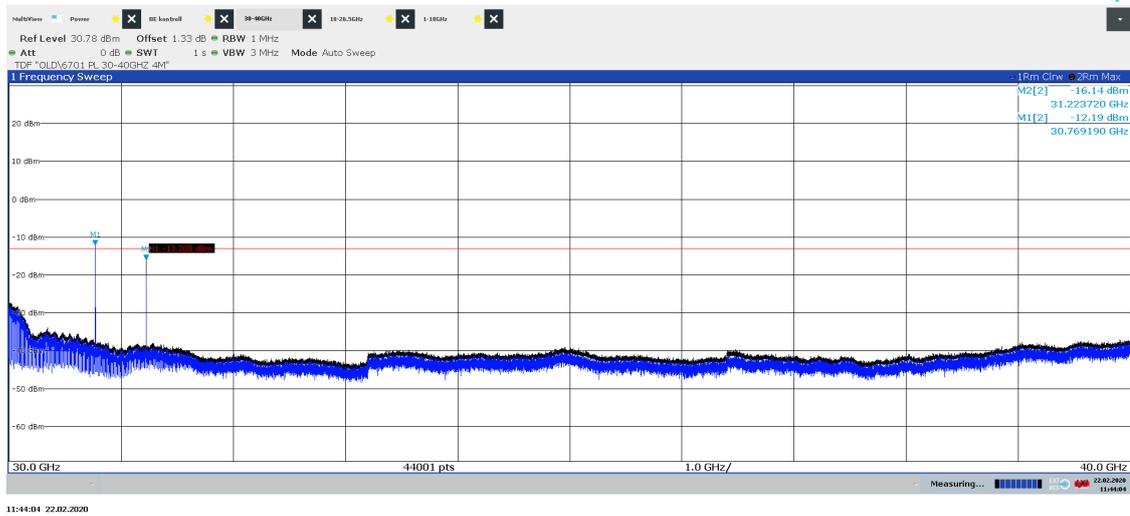


Diagram 26b: Pre scan 30 – 40 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization

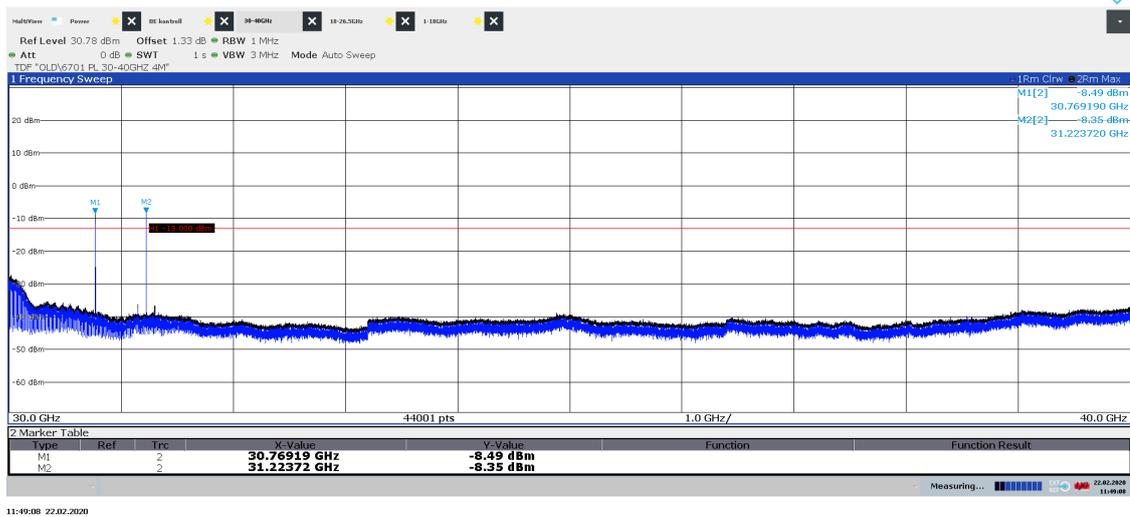


Diagram 27a: Pre scan 40 – 60 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization

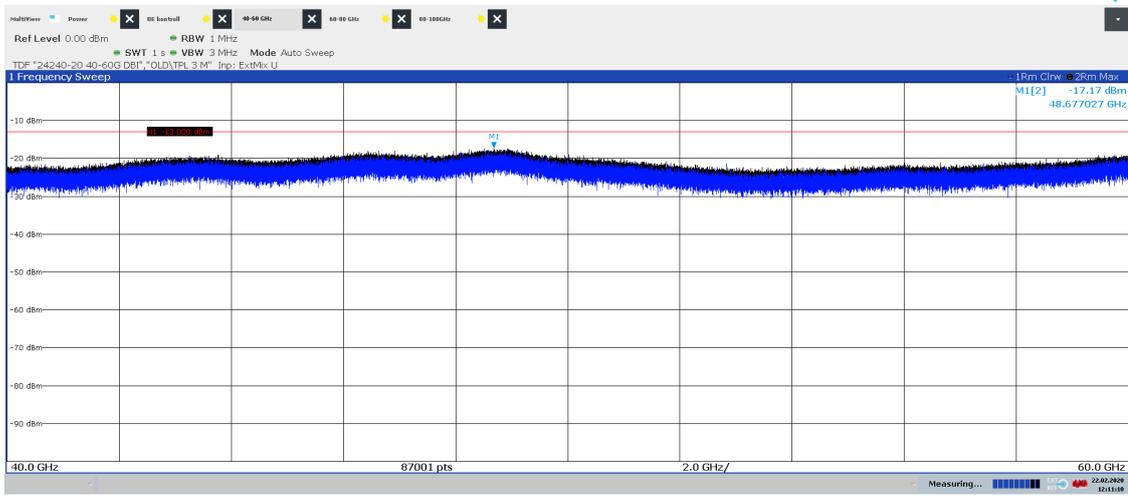


Diagram 27b: Pre scan 40 – 60 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization

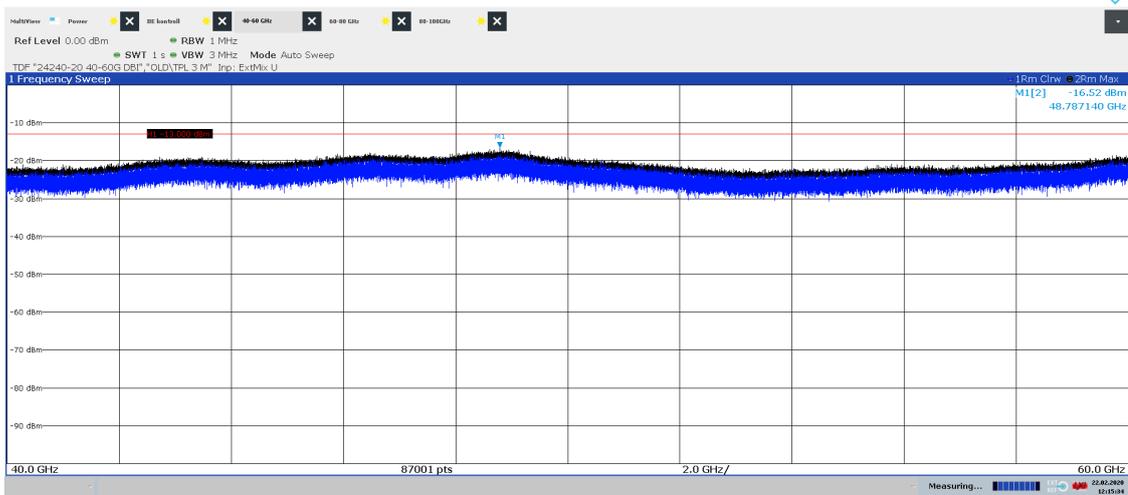


Diagram 28a: Pre scan 40 – 60 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization

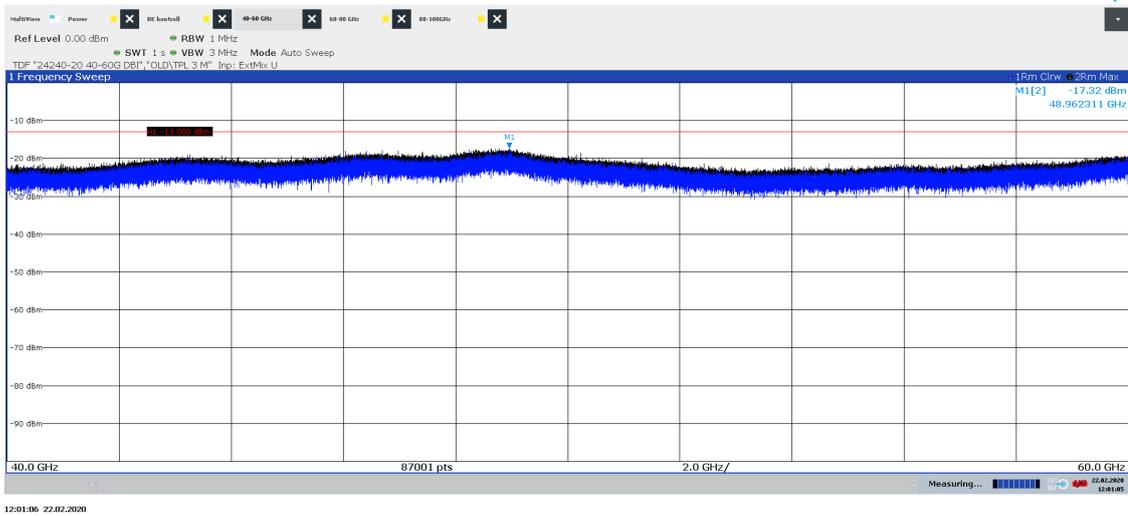


Diagram 28b: Pre scan 40 – 60 GHz, Symbolic name: BT8L₁₀₀, EIRP Vertical polarization

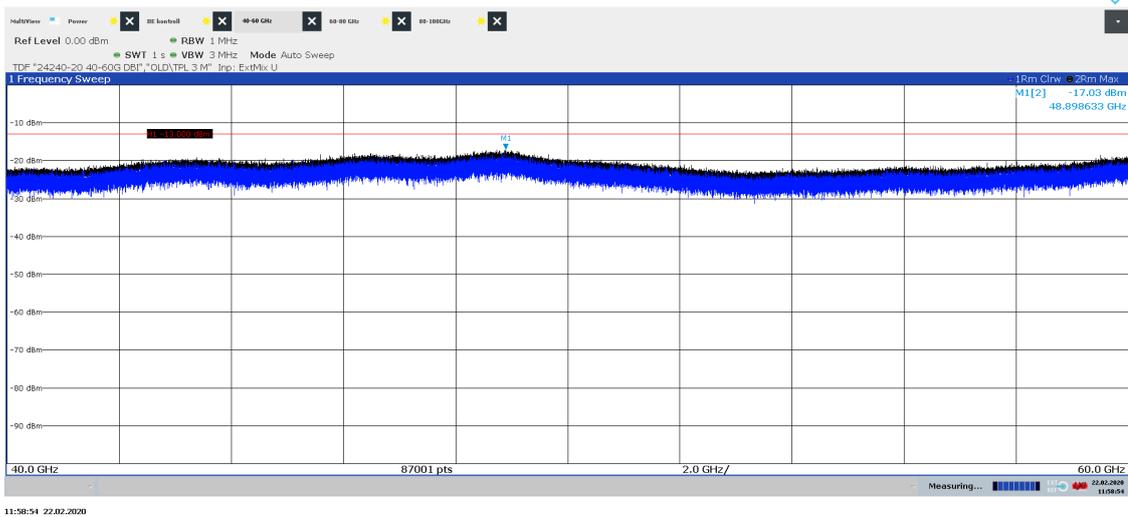


Diagram 29a: Pre scan 60 – 80 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization

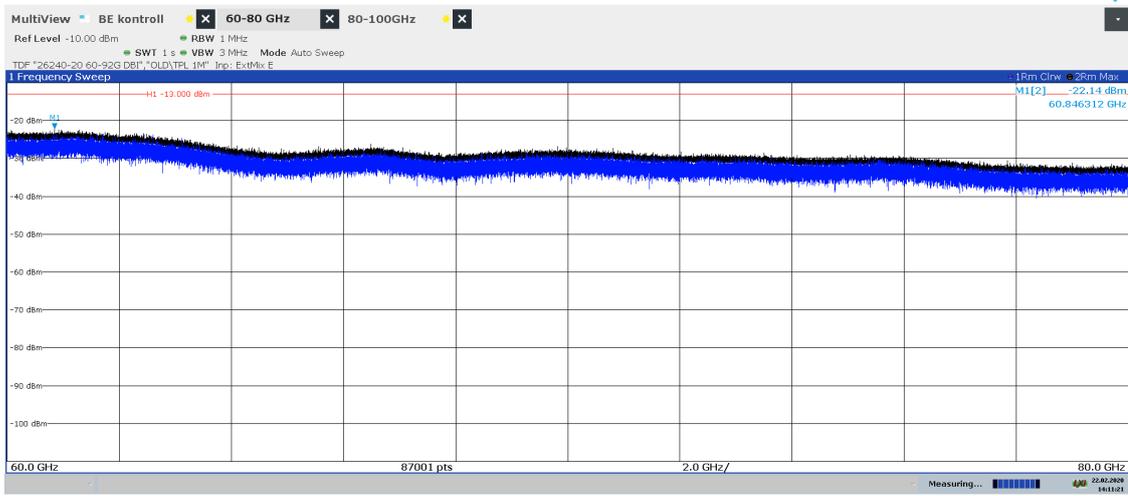


Diagram 29b: Pre scan 60 – 80 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization

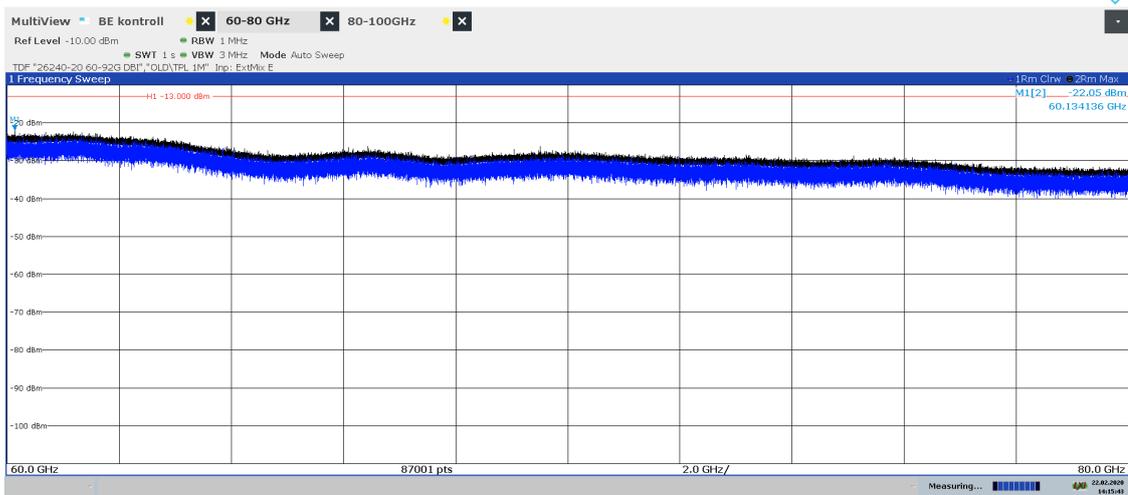


Diagram 30a: Pre scan 60 – 80 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization

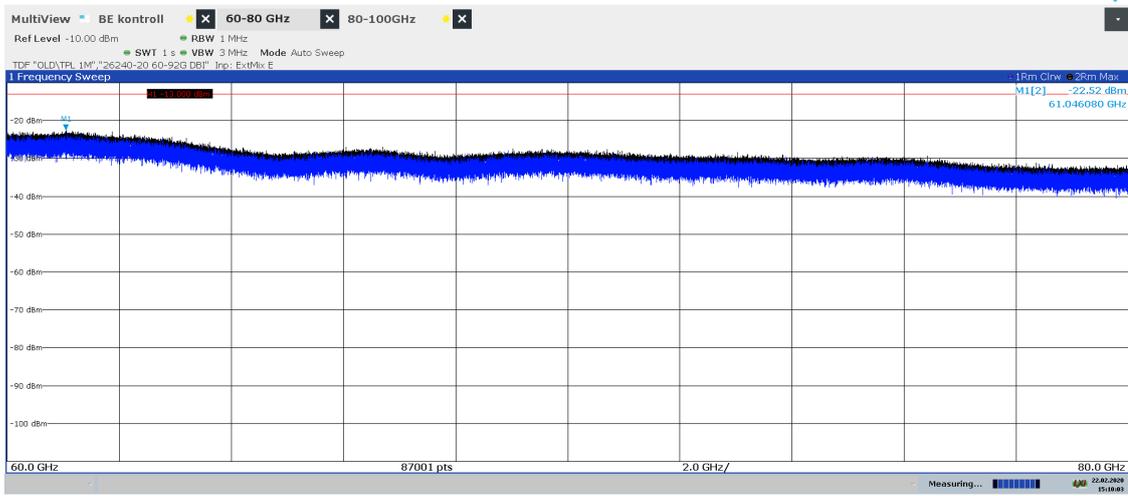


Diagram 30b: Pre scan 60 – 80 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization

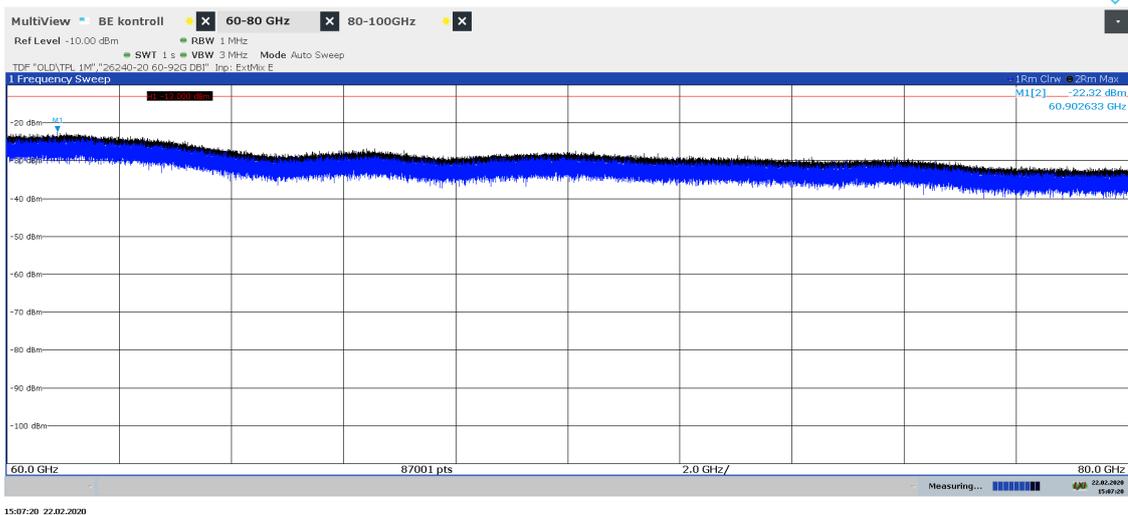


Diagram 31a: Pre scan 80 – 100 GHz, Symbolic name: BL₅₀, EIRP Horizontal polarization

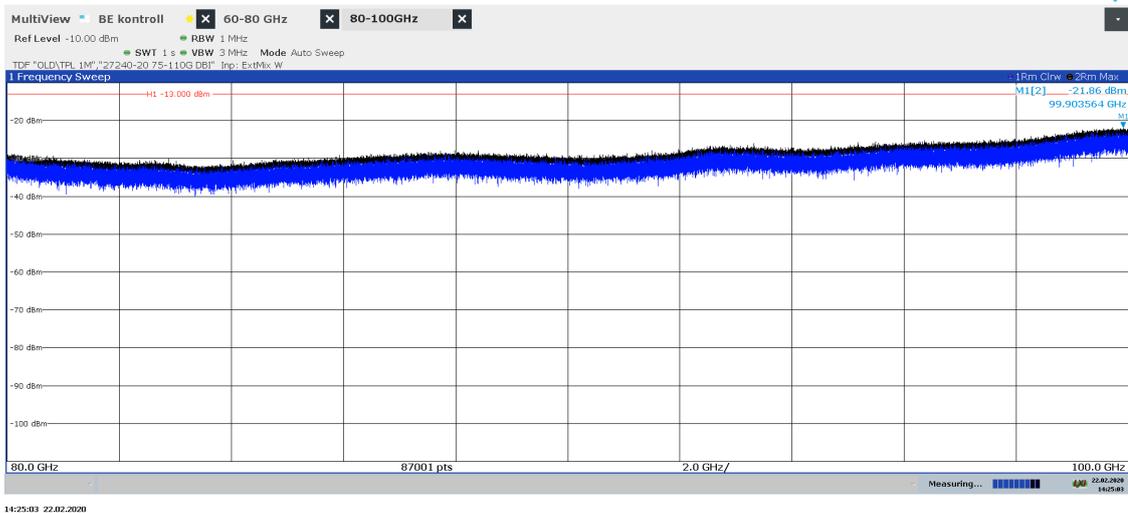


Diagram 31b: Pre scan 80 – 100 GHz, Symbolic name: BL₅₀, EIRP Vertical polarization

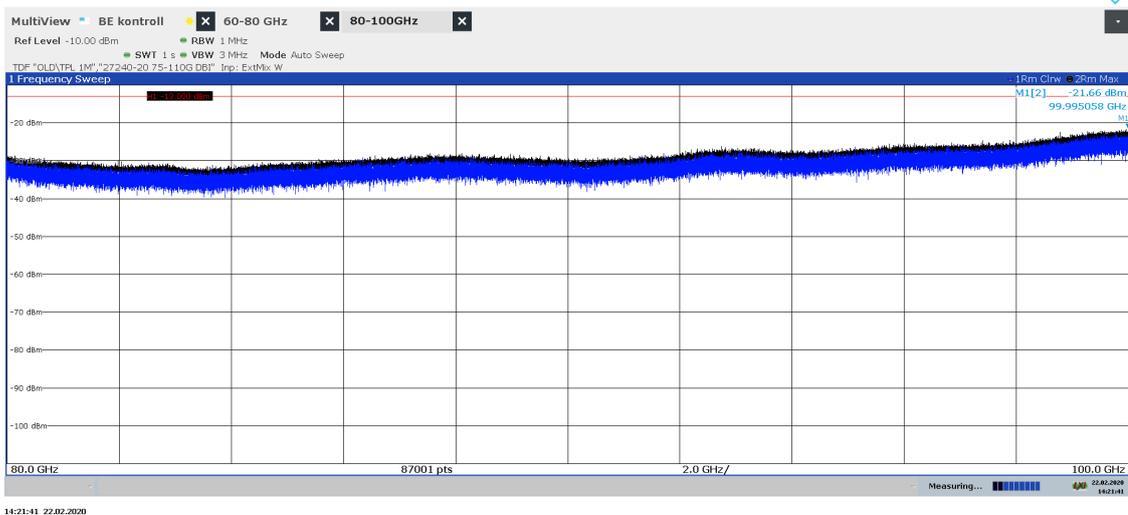


Diagram 32a: Pre scan 80 – 100 GHz, Symbolic name: BT8₁₀₀, EIRP Horizontal polarization

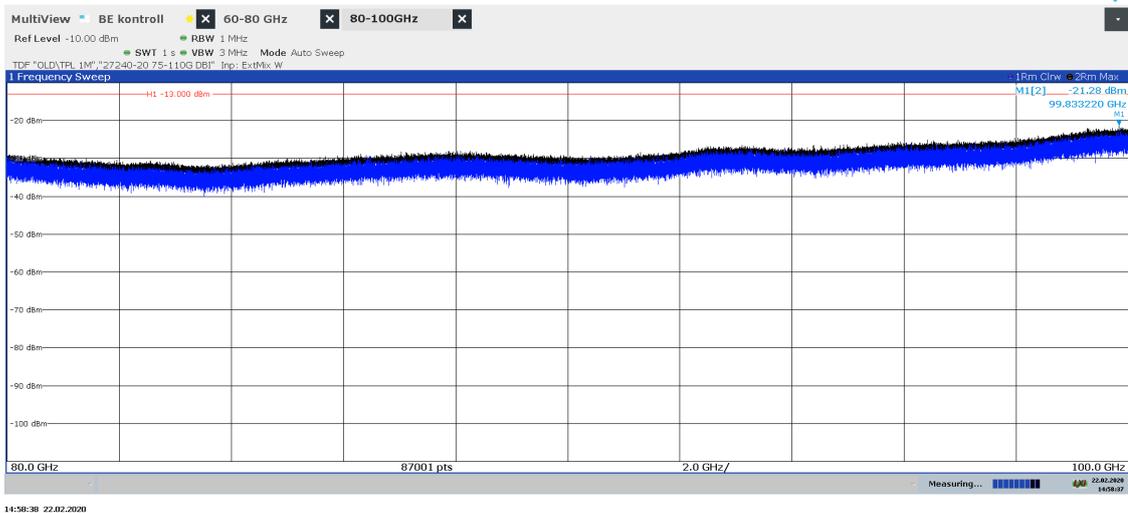
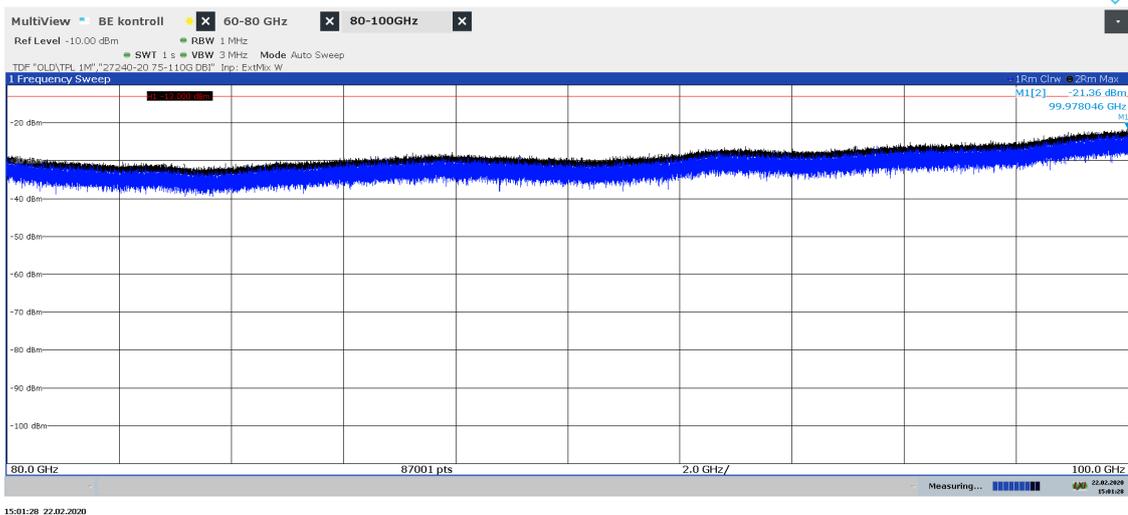


Diagram 32b: Pre scan 80 – 100 GHz, Symbolic name: BT8₁₀₀, EIRP Vertical polarization



Photos of test object

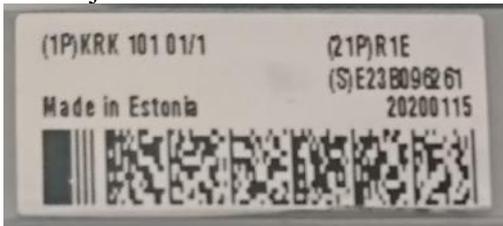
Front side



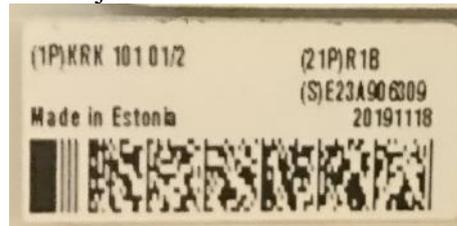
Rear side



Test object label AC: KRK 101 01/1:



Test object label DC: KRK 101 01/2



Bottom side:



Top side
AC



DC



Left side



Right side

