



Appendix D. Radiated Spurious Emission Plots

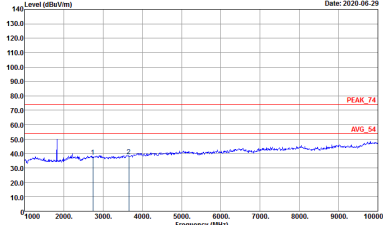
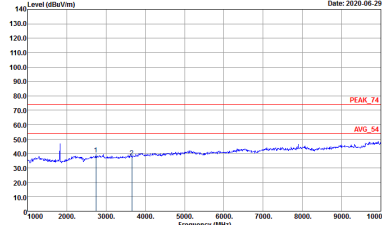
Test Engineer :	Cookie Ku, Fu Chen, and Troye Hsieh	Temperature :	19.1~26.3°C
		Relative Humidity :	50.2~69.1%

<LoRa FHSS>

LoRa (Harmonic @ 3m)

LoRa	902~928MHz Harmonic @ 3m	
ANT	LoRa CH01 902.2MHz	
4	Horizontal	Vertical
Peak Avg.	<p> Site : 03CH11-4F Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01 </p>	<p> Site : 03CH11-4F Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01 </p>



LoRa	902~928MHz Harmonic @ 3m	
ANT	LoRa CH65 915MHz	
4	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01 Setting : Z2</p>	 <p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01 Setting : Z2</p>



LoRa	902~928MHz Harmonic @ 3m	
ANT	LoRa CH129 927.8MHz	
4	Horizontal	Vertical
Peak	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01</p>	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01</p>

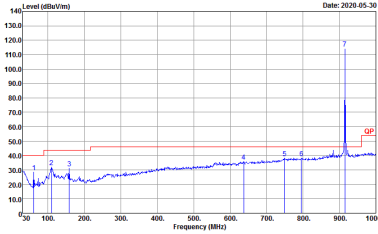
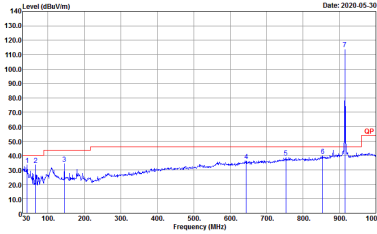


Emission below 1GHz

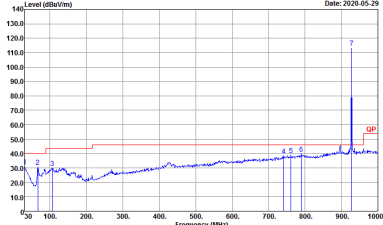
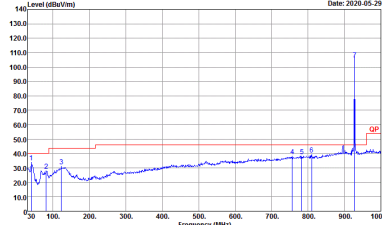
LoRa (LF)

LoRa	902~928MHz	
ANT	LoRa CH01 902.2MHz LF	
4	Horizontal	Vertical
QP / Peak	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : 22 -10dB</p>	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : 22 -10dB</p>



LoRa	902~928MHz	
ANT	LoRa CH65 915MHz LF	
4	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>

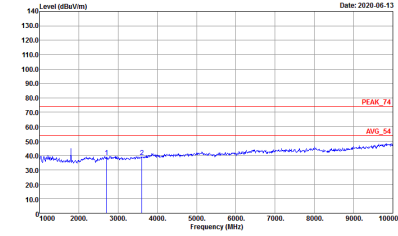
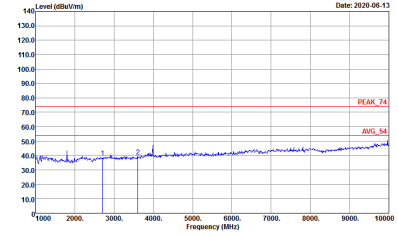


LoRa	902~928MHz	
ANT	LoRa CH129 927.8MHz LF	
4	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



<FSK 50Kbps FHSS>

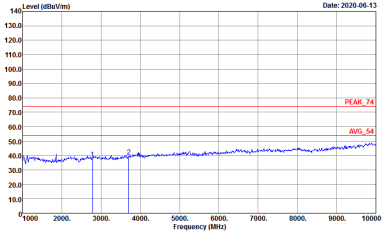
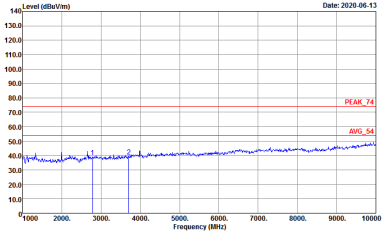
FSK (Harmonic @ 3m)

FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH01 902.2MHz	
4	Horizontal	Vertical
Peak Avg.	 <p>Site : 03GH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01</p>	 <p>Site : 03GH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01</p>



FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH65 915MHz	
4	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01</p>	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01</p>



FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH129 927.8MHz	
4	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01</p>	 <p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01</p>

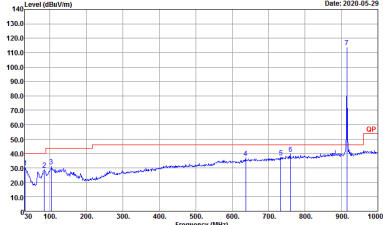
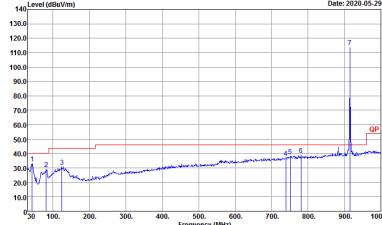


Emission below 1GHz

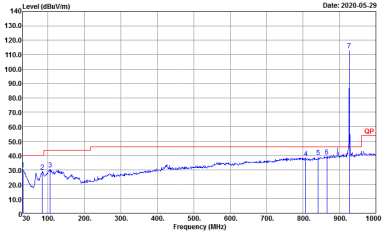
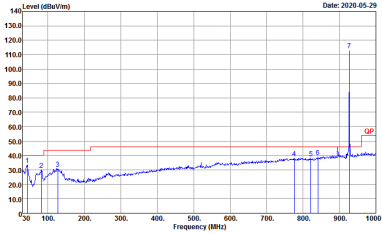
FSK (LF)

FSK	902~928MHz	
ANT	FSK CH01 902.2MHz LF	
4	Horizontal	Vertical
QP / Peak	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : 22 : -10dB</p>	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : 22 : -10dB</p>



FSK	902~928MHz	
ANT	FSK CH65 915MHz LF	
4	Horizontal	Vertical
<p>QP / Peak</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



FSK	902~928MHz	
ANT	FSK CH129 927.8MHz LF	
4	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



<FSK 150Kbps FHSS>

FSK (Harmonic @ 3m)

FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH01 902.4MHz	
4	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-4Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01</p>	<p>Site : 03CH11-4Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01</p>



FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH32 914.8MHz	
4	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01</p>	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01</p>



FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH64 927.6MHz	
4	Horizontal	Vertical
Peak	<p>Horizontal spectrum plot showing Level (dBuV/m) vs Frequency (MHz). The plot displays a peak at 927.6 MHz. The y-axis ranges from 10.0 to 140.0 dBuV/m, and the x-axis ranges from 1000 to 10000 MHz. A red horizontal line indicates the peak level at approximately 75 dBuV/m, labeled 'PEAK_74'. A blue horizontal line indicates the average level at approximately 45 dBuV/m, labeled 'AVG_54'. The plot includes a date of 2020-06-13 and the following metadata: Site: 03CH11-HY, Condition: PEAK_74 3m HORN 91200-HF HORIZONTAL, Detector: Peak, Project: 012305-01.</p>	<p>Vertical spectrum plot showing Level (dBuV/m) vs Frequency (MHz). The plot displays a peak at 927.6 MHz. The y-axis ranges from 10.0 to 140.0 dBuV/m, and the x-axis ranges from 1000 to 10000 MHz. A red horizontal line indicates the peak level at approximately 75 dBuV/m, labeled 'PEAK_74'. A blue horizontal line indicates the average level at approximately 45 dBuV/m, labeled 'AVG_54'. The plot includes a date of 2020-06-13 and the following metadata: Site: 03CH11-HY, Condition: PEAK_74 3m HORN 91200-HF VERTICAL, Detector: Peak, Project: 012305-01.</p>



Emission below 1GHz

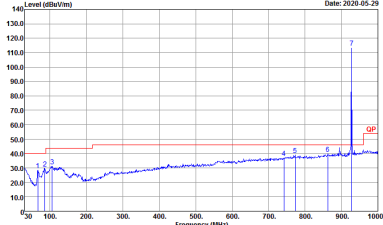
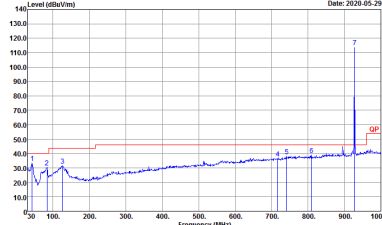
FSK (LF)

FSK	902~928MHz	
ANT	FSK CH01 902.4MHz LF	
4	Horizontal	Vertical
QP / Peak	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : 22 -10dB</p>	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : 22 -10dB</p>



FSK	902~928MHz	
ANT	FSK CH32 914.8MHz LF	
4	Horizontal	Vertical
QP / Peak	<p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	<p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



FSK	902~928MHz	
ANT	FSK CH64 927.6MHz LF	
4	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



<FSK 250Kbps FHSS>

FSK (Harmonic @ 3m)

FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH01 902.5MHz	
4	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01 Setting : 22</p>	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01 Setting : 22</p>



FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH26 915MHz	
4	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01 Setting : Z2</p>	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01 Setting : Z2</p>



FSK	902~928MHz Harmonic @ 3m	
ANT	FSK CH51 927.5MHz	
4	Horizontal	Vertical
Peak	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 012305-01 Setting : Z2</p>	<p>Site : 03CH11-HY Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 012305-01 Setting : Z2</p>

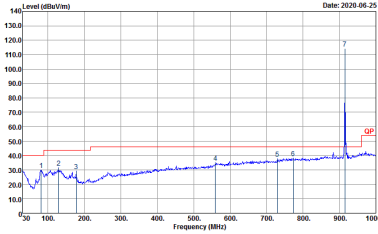
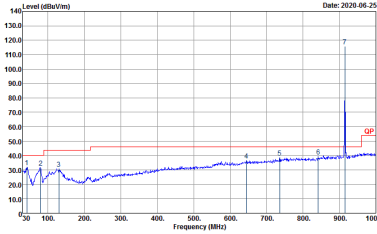


Emission below 1GHz

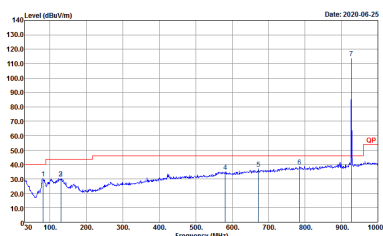
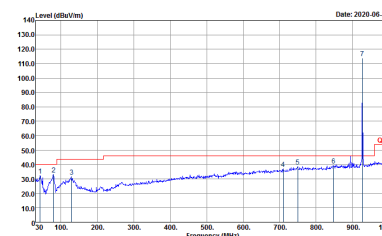
FSK (LF)

FSK	902~928MHz	
ANT	FSK CH01 902.5MHz LF	
4	Horizontal	Vertical
QP / Peak	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : 22 : -10dB</p>	<p>Site : 03CH11-HY Condition : QP 3m BT-LOG 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : 22 : -10dB</p>



FSK	902~928MHz	
ANT	FSK CH26 915MHz LF	
4	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



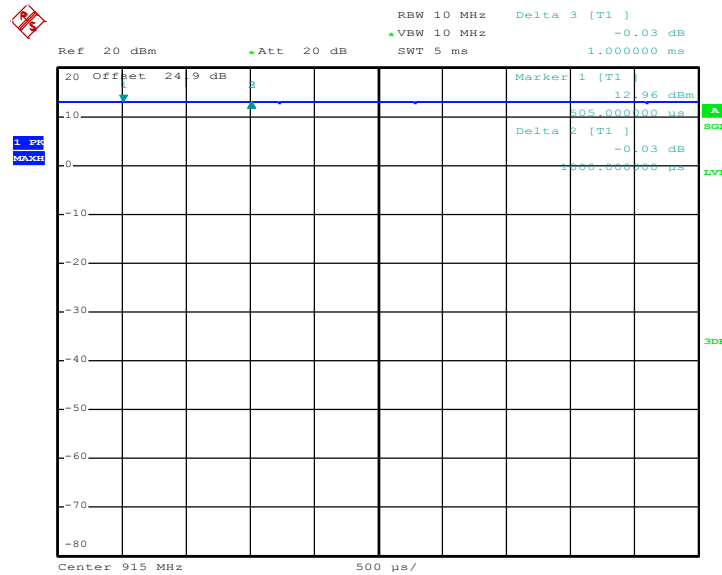
FSK	902~928MHz	
ANT	FSK CH51 927.5MHz LF	
4	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>	 <p>Site : 03CH11-HY Condition : QP 3m BE-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : 012305-01 Setting : ZZ : +10dB</p>



Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
4	LoRa FHSS	100.00	-	-	10Hz	0.00
4	FSK 50Kbps FHSS	12.44	7300.00	0.14	1 kHz	9.05
4	FSK 150Kbps FHSS	4.53	2450.00	0.41	1 kHz	13.44
4	FSK 250Kbps FHSS	2.59	1365.00	0.73	1 kHz	15.87

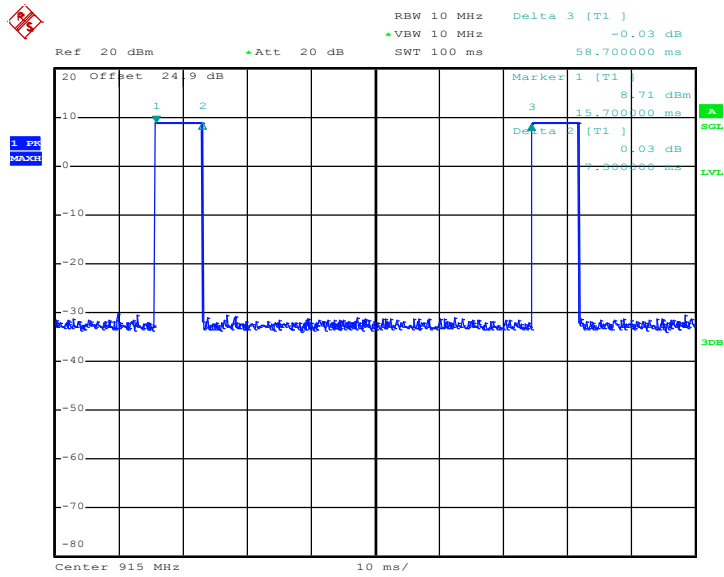
LoRa FHSS



Date: 20.MAY.2020 12:05:16

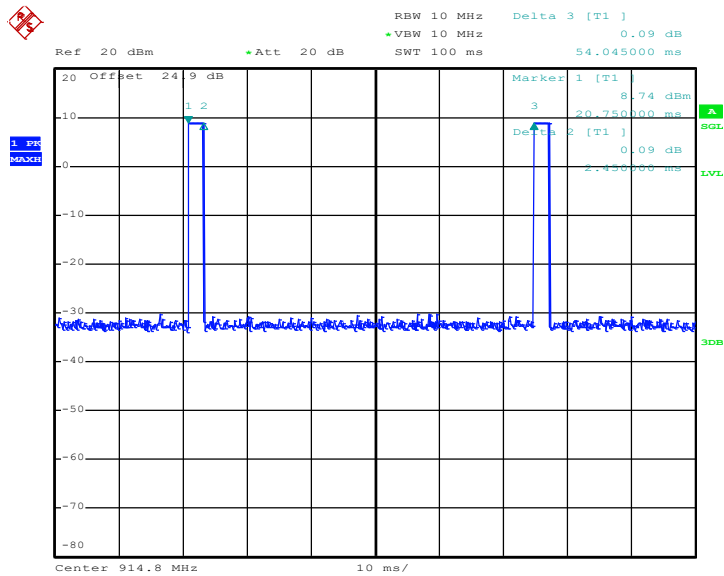


FSK 50Kbps FHSS



Date: 20.MAY.2020 14:48:29

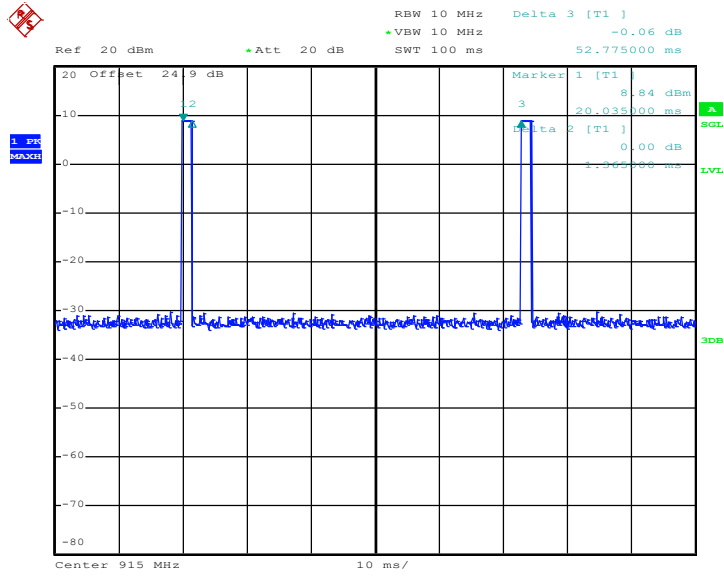
FSK 150Kbps FHSS



Date: 20.MAY.2020 16:22:01



FSK 250Kbps FHSS



Date: 20.MAY.2020 16:53:49

—THE END—